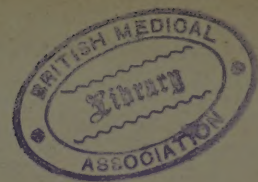






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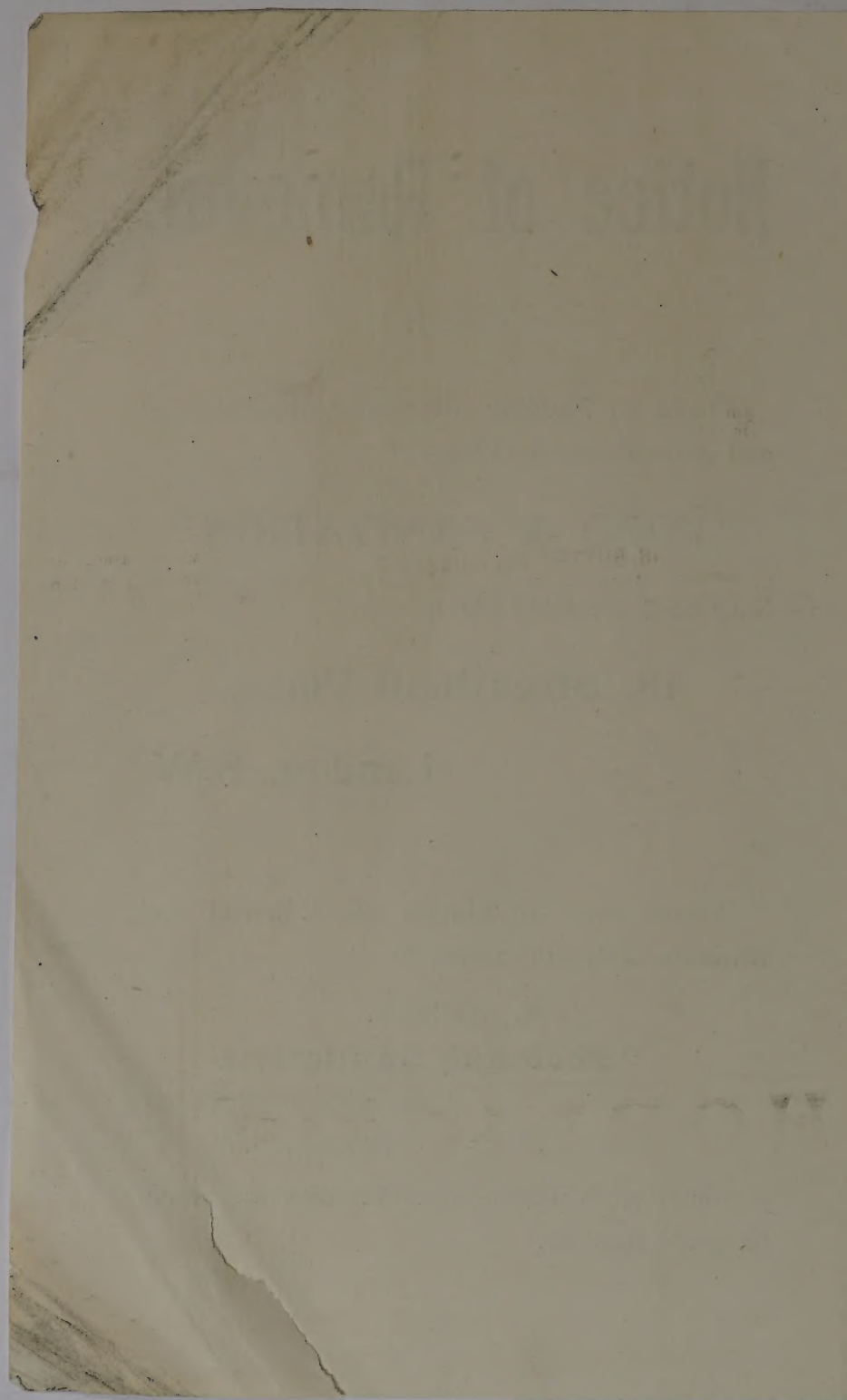
M. HENRY,

**“Food and Sanitation,”**

18, STREATHAM PLACE,

LONDON, S.W.,

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# FOOD AND SANITATION.



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BY

T. C. H. HEDDERWICK, M.A.,  
OF THE MIDDLE TEMPLE, BARRISTER-AT-LAW.

EYRE & SPOTTISWOODE,  
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## Food and Sanitation.

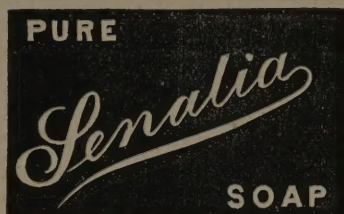
SATURDAY, JULY 7TH, 1894.

### THE GOVERNMENT CHEMICAL DEPARTMENT.

If the castigations we have, in the public interest, felt it necessary to administer to the pseudo-chemical department at Somerset House, that poses as a court of reference for which it has not one atom of fitness, needed any further justification, it could be found in the vinegar trade prosecution, reported in another column. The Somerset House chemists had a plain question addressed to them, namely, was Mr. Allen's analysis of the vinegar accurate or inaccurate? This question they either would not or could not answer, but furnished a certificate of that exasperating character for which Somerset House is notorious. In the hands of a less able advocate than the Sheffield Deputy Town Clerk their ridiculous certificate might well have led to the case being dismissed. Its stupidity is just of the character that invites an appeal against a conviction, and we should not be surprised to see this Somerset House ignorance costing the Sheffield authorities a considerable amount of money. Should the case go to appeal we trust that means will be adopted to put the chemists of this Government Department in the box, and that they will be rigorously examined upon their methods of analysis.

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Our whole system of Government analysis is, as we have repeatedly pointed out, in a state that offers neither to the public nor to the traders any security whatever. It would be, of course, manifestly unfair to Dr. Dupré to class him with the Somerset House gang, as all who know his sterling worth as a man and his capacity as a scientist will admit; but it is neither fair to the public nor creditable to the Government that chemical evidence, absolutely unsupported, and with practically no body of experts to attest its accuracy or otherwise, should have been offered, as was the case in the trial of the alleged anarchist on Wednesday. Upon the one side there was Dr. Dupré explicitly stating that the substances found by the police were of a highly explosive character; on the other side there was Dr. Teed, a public analyst of the highest reputation and attainments, brushing aside, as unworthy of chemical notice, the evidence adduced by the Crown and stating that the alleged highly explosive substances were "mere rubbish," the sweepings of a student laboratory.

It is surely time that incidents such as these that have occurred during the past week should be made impossible. As we have repeatedly proved, a society for scientific research, with a body of real experts as a court of reference, in cases affecting adulteration, etc., would not only be a safeguard for the public, but would save the English people millions of money per year. To take as an example the question of butter; it would not pay any capable analyst to make independent investigations with this article. It is nobody's business to persistently study butter analysis and devise means of detecting minute percentages, say of 5 or 10 per cent. of foreign fats. There is every reason to believe that there is not one ounce of really genuine butter comes from the Continent, and that every pound of the so-called pure butter contains at least 5 per cent. and often more, of margarine. This enables the foreigners to undersell our native butter producers, and it is practically a plunder of the English public of some thousands of pounds per week. It is the same with nearly every article of food. Ingenious works-chemists are ever engaged in perfecting new swindles for the large manufactures of food stuffs, and the price the English public pay for this absence of accurate chemical knowledge and supervision amounts to many millions of pounds yearly. If the wretched fiascos above alluded to do not lead to the creation of a really expert court of reference in chemical matters, we must consider that it is impossible to open the eyes of the authorities.



## THINGS IN GENERAL.

## THE MYSTERY OF A PEPPERMINT LOZENGE.

EVERY day brings us fresh cause for wonder at the marvellous resources of the gentry who make adulteration a fine art. One of the greatest annoyances of railway travelling is the giggling miss or the vinegar-faced spinster sucking industriously at the potent-smelling peppermint drop.

A Lincoln manufacturer appears to have championed the cause of those who consider the peppermint lozenge a nuisance. On June 27th, Willen Sharp, grocer, Donington, was charged with having sold peppermint lozenges adulterated with raw potato starch. There were two summonses, the first charging the defendant with having adulterated the lozenges as an article of food, and the second charging him with having adulterated the lozenges as a drug, so as to injuriously affect its quality and potency.—Mr. H. Snaith defended.—Superintendent Crawford proved the purchase of the lozenges, and Mr. C. H. Southwell, the county analyst, said that the lozenges contained not less than 10 per cent. of raw potato starch. The lozenges of the British Pharmacopœia consisted of sugar, gum acacia, and the medicinal substance they represented. The use of starch would increase the bulk, weight, and the profit, and would take the place of much of the gum acacia. Gum acacia was worth from 1s. 6d. to 5s. per lb., and potato starch was worth less than 1½d. per lb. Raw starch was considered injurious, as tending to induce or to aggravate dyspepsia.—Dr. Pilcher also gave evidence in support of the charge, and said that raw potato starch was injurious to health, and would have a depreciating effect on any drug with which it was combined.—On behalf of the defendant, Mr. Snaith said he retailed the lozenges as they were supplied to him, and he was ignorant as to what they contained.—Defendant said he had never had any complaint about the lozenges; and, on being pressed, stated that he purchased them from Mr. Poppleton, of Lincoln.—The magistrates dismissed the case, on the ground that the defendant had acted in ignorance, but cautioned him against selling similar lozenges in the future.

There may, however, be those who are prepared to say a good word for the peppermint drop, and they will learn with a feeling of alarm that its supposed potency against "spassums" is thus tampered with, and that dire dyspepsia lurks in this sweetmeat.

## SPENT GINGER PRECEPT AND PRACTICE.

SOME four months ago the following very strong letter respecting spent ginger was sent to the principal grocers' papers:—  
*February 2nd.*

Sir,—Our attention has been directed to a letter in last Saturday's *Grocer*, from Messrs. Drysdale, Dennison, and Co., defending the admixture of "exhausted" or "spent" ginger with pure ground ginger—such a composition, in fact, as that on which a conviction was obtained recently in Sheffield.

Whilst admitting the right of this firm to offer, in their own defence, any explanation of such a practice, we must challenge their authority to speak "for the trade generally." As far as concerns ourselves, we wish most emphatically to repudiate that "the decision has taken the trade generally completely by surprise," or that "so-called exhausted ginger always has been used and sold as a cheap ground ginger without question." We desire, also, to record that not only have we always refused to sell such a mixture, but we have besides continually protested against and warned our buyers of such sophistication.

It would be a reproach to your readers to imagine that they would credit, even on the authority of "one of the most eminent analysts here," that the residuum of any spice, or drug, or seed, after the exhaustion of its alcoholic extract, is not impoverished and robbed of its strength and pungency. But if, for a minute, we can be made to believe that no detrimental results are caused by such a process, why are we assured, in the concluding paragraph of their extraordinary letter, that "so-called exhausted gingers have only been used in the common low-priced qualities?"

To blend tea with exhausted tea-leaves, or to mix coffee with dried coffee grounds (if such processes are possible), and to sell such mixtures as pure tea or coffee, would be as discreditable a proceeding, in our opinion, as the practice these manufacturers attempt in their letter to defend.—We are, etc.,

GEORGE HARKER AND CO.  
W. AND D. HARVEST.  
W. AND C. PANTIN.  
J. TRAVERS AND SONS (LIMITED).

In a prosecution of a Mr. J. R. Hood, grocer, Dunston, which we reported in our issue of June 9th, it was alleged by the solicitor for the defence that the ginger in question, which the analyst stated was adulterated with 30 per cent. of exhausted ginger, had been purchased by Mr. Hood from Messrs. Byers and Young, of Newcastle, who, in turn, had obtained it from Messrs. Pantin, of London. If the Messrs. Pantin referred to be the same firm as that signing the above letter, some explanation is certainly due to the trade and to the public. If they are not the same, then they should certainly take measures to prove that they have no connection whatever with the Messrs. Pantin concerned in the case.

## TINNED FOOD POISONING.

THE poisoning season by tinned and other foods has set in with a vengeance. Last week we had to record the narrow escape from death of 20 persons at Crossflats, near Keighley, by poisoning caused by potted meat. The tinned meat supplied to the French army is now the subject of official inquiry, arising from the fact that on Monday night some of it dealt out to the soldiers afflicted 114 so severely that they had to be taken to the hospital. One of the persons attacked has already died and several others are in the gravest danger. The protection of the public from poisoning by tinned foods does not fall under the province of the Food and Drugs Acts, and it is to be hoped that some means will be taken to bring this fact prominently before the Select Committee upon Adulteration.

## THE INCORPORATED BRITISH SOCIETY OF INSPECTORS OF WEIGHTS AND MEASURES.

THE Annual Meeting of this Society will be held in the County Hall, Spring Gardens, on Thursday and Friday July 12th and 13th, under the presidency of Sir John Hutton. Discussions will take place upon the decimal system, with special reference to the necessity of bringing the subject before the Inter-Colonial Conference at Ottawa, on Food and Drugs Acts, and on the flaw discovered in the Weights and Measures Acts, whereby the revenue derived by the various Local Authorities is endangered. The annual dinner will take place in the Holborn Restaurant on Friday at 7.30. For Saturday a trip to Hampton Court has been arranged.

## DEATH FROM EATING FRIED FISH.

AN inquest was held at Bath on June 27th, on the body of William Scott, 21, road-mender, who died in the Royal United Hospital on the 21st inst. Evidence was given that after eating some fried fish deceased was taken with pains in the stomach and sickness. He had medical advice, but became so much worse that he was taken to the hospital, where he subsequently died. The city analyst (Mr. Gatehouse) had analysed the viscera, but could find no poison beyond the products of decomposition. Mr. Walsh, the medical officer at the hospital, thought that the deceased must have been poisoned by the eating of putrid fish; the intestines were so inflamed that it must have been caused by an irritant poison. The jury returned a verdict of death from poisoning but there was not sufficient evidence to show how it was introduced into the system.

## BEER AND "SWIPES."

THE swindling brewers' advocates have, during the past week, been industriously endeavouring to hocus the *Standard*, and have again trotted out the ridiculous and ignorant nonsense of the Chancellor of the Exchequer, "that there were 2,044 samples of beer analysed for the detection of adulteration during the year, and in no case was the existence of a noxious ingredient found," to prove that beer is not adulterated. They conveniently ignore, as the Chancellor of the Exchequer did, the fact that the public in purchasing beer expect to get the product of malt and hops, and not a something produced from rice or sugar. If the Chancellor of the Exchequer be stupid enough to state that beer is not adulterated, it is no proof that such is the case, and Dr. Moritz and the other advocates of the brewers know this perfectly well.

To say that beer brewed from these substitutes is as good or as wholesome as beer brewed from malt and hops alone is not to the point. Our own investigations have shewn, for instance, that margarine and butter mixtures are quite unobjectionable, and some of them even better than many pure butters; but the law does not allow the sale of these substitutes as pure butter, and it is a great pity that ignorant Inland Revenue officials, such as Sir Algernon West, and his advisers, the even more ignorant Somerset House chemists, have legalised swindles in beer of a character which in the case of butter are punished with heavy penalties. This folly has benefited no person but the swindling brewer, whose enormous profits it has swollen, whilst it has thrown 1,500,000 acres of barley land out of cultivation, and deprived thousands of labourers of employment. We can quite understand, however, the feverish anxiety that pervades the brewers, and the attempt to humbug the *Standard* and deceive the public upon this question. It is a gross attempt to conserve a gigantic fraud, and in the public interest measures must be adopted to compel the brewer of the rice and sugar substitutes to call his brew rice beer, sugar beer, or Filthene or Swipesene, as each case may be.

At present there is nothing to prevent a brewer from using road-sweepings if he choose to do so, and the contentions made by correspondents of the *Standard* to the effect that beer does not contain any noxious or poisonous ingredients is not only sheer nonsense but utterly beside the question. There is no one fool enough to suppose that the brewer would use poisonous ingredients in his beer, for one reason the poison would be a great deal dearer than the trash he now employs, and another that he is far too great a rogue and too little of an ass to put substances into his beer which would effectually destroy his trade by poisoning his customers. This assumption of indignant virtue on the part of the brewer is therefore about as impudent a piece of bluff as we ever remember to have seen worked upon a newspaper. It is significant that it is never attempted with us, but only with papers whose writers have no real knowledge of the question.



## LARD ADULTERATION.

THE extensive adulterations in this article render it almost impossible for English refiners to make a living, and it is a great pity that more samples are not taken for analysis. For instance, in a prosecution in the Blaina Police Court on June 19th, Mary Davies, grocer, Garnvael, was fined 20s. and costs for selling half a pound of lard to Mr. T. E. Sergeant, inspector under the Food and Drugs Act for the Monmouthshire County Council, on June 8th, which contained, according to the analyst's report, 77 per cent. of adulterants.

## EIGHTEEN PER CENT. OF LARD IN CHEESE.

THE authorities in Liverpool last week prosecuted Hugh O'Neill, grocer, 117, Fountains-road, for having sold cheese which on analysis proved to have been deprived of nearly the whole of its natural fat, and to have upwards of 18 per cent. of lard added. The defendant said he bought the commodity for genuine cheese, and was ignorant of its quality. The magistrate adjourned the case for seven days in order that the source from which the cheese came might be discovered. Michael Riley, 57, Brownlow-hill, was summoned for selling cheese which had been deprived of the whole of its natural fat, and to which had been added upwards of 10 per cent. of lard. The analyst's observation was:—"The lard is added to conceal the inferior quality of the skim milk cheese." This case also was adjourned. It is to be hoped that they will get at the real authors of this swindle.

## SINGULAR MILK CASE.

STEPHEN NUNN, of 14, Carlton-hill, was summoned at Brighton last week for selling a pint of new milk adulterated with not less than 20 per cent. of added water.—Mr. Talbot prosecuted, and Mr. J. C. Buckwell defended.—Sanitary Inspector Cuckney said on May 13th he saw Bernard Miles, a lad in the employ of the defendant, delivering milk in Islingword-road. Witness asked for a pint of new milk, and was served from a hand-can containing about two gallons. He paid 2d. for the milk. Defendant traded under the name of the Brighton and Hove Dairy Company, and these words were stamped on the can. Defendant carried on a large business, and had four shops.—Cross-examined: He did not know Miles till that morning. He based his evidence that Miles was in the employment of the defendant on Miles's own statement.—Bernard Miles was called, and said he lived at 26, Ivory-place. He helped Mr. Robinson, who sold milk for himself. He did not know where Mr. Robinson got the milk. Replying to further questions by Mr. Talbot, witness said he started with Mr. Robinson from Mr. Nunn's shop in Carlton-hill.—Mr. Talbot asked for an adjournment to enable him to call Mr. Robinson. It was the first he had heard of him.—Mr. Buckwell: You can call him. He is in Court.—Mr. Robinson, who resides at 9, South-street, said he purchased the milk of Mr. Nunn. He admitted that the cans and the perambulator belonged to Mr. Nunn, but said they were lent to him to sell the milk. He paid 10d. a gallon for the milk, and sold it on his own account. He did not pay for the milk before he started. He admitted that he was not registered as a purveyor of milk. He paid what he could to Mr. Nunn every day, and was supposed to settle at the end of the week, but he now owed about £5.—Mr. Buckwell submitted there was no case, as the evidence was plainly that the milk was Robinson's.—The Stipendiary: How if it is a fraud from beginning to end?—Mr. Buckwell: If you do find it a fraud I shall simply appeal.—The Stipendiary: Have you no defence at all?—Mr. Buckwell: There is nothing to defend. Robinson says he bought the milk of Mr. Nunn, and I submit there is no evidence of fraud.—The Stipendiary ruled that there was a case, and Mr. Buckwell called the defendant, but Mr. Nunn declined to give evidence, stating that he would submit to a conviction and appeal.—Defendant was fined £10 and costs, or a month's imprisonment.—Mr. Buckwell asked the Bench to find sureties for appeal, and the Stipendiary found two sureties in £25, or one in £50.

## SPURIOUS POTASSIUM PERMANGANATE.

NOW that the season has arrived when disinfectants are once more in great request, the customary recommendations to use permanganate of potash are appearing everywhere in the public press. It is anything but reassuring to find that the purchaser can by no means be certain that he is getting a substance having any disinfectant properties whatever. The Germans are making a spurious permanganate from dextrin, coloured with malachite green, which is mixed in large quantities with the genuine compound. To the professional eye the adulteration is easily detected, but the general public can be swindled by it with impunity. The whole question, however, of disinfectants is absolutely unsatisfactory, inasmuch as, however worthless or rubbishy they may be, they do not come within the scope of the Food and Drugs Acts, and therefore cannot be proceeded against if adulterated. As it is, the market is flooded with worthless trash. This is a question which should certainly be brought before the notice of the Adulteration Committee now sitting.

## BEER AND WATER.

AT Lambeth John Thomas Smith was summoned by the Excise for diluting beer.—Mr. Squires, from the Solicitor's Department, Somerset House, appeared in support of the summons, and said the case was a bad one, the dilution being equal to 6½ gallons to a barrel of 36 gallons.—The defendant carried on business at a fully-licensed house in Marmont-road, Camberwell, and on March 27th, a supervisor of Inland Revenue took a sample of beer from a cask in the defendant's cellar. Upon examination at Somerset House, it was found that the beer had been diluted at least to the extent mentioned.—The defendant said his instructions to the cellarman were that he was in no way to dilute the beer, and the cellarman assured him that he used only a gallon of finings. The defendant had no chance of defending himself, as the Excise did not divide the sample, and he heard nothing of the matter for two months.—Mr. Squire pointed out that the defendant was present when the officers called, and could have had a sample if he had chosen to ask for it.—Mr. Biron (to defendant): You were there when they took the sample, and any man of ordinary intelligence would have taken a sample himself.—The defendant said samples had been taken from his place on previous occasions without any complaint being made. There must be some mistake in this case.—Mr. Biron ordered the defendant to pay a fine of £30, and £2 10s. costs.

## MR. BIRON IMPROVES.

IT has fallen to our lot to say many hard things of Mr. Biron with respect to the ridiculous penalties he has been in the habit of inflicting in adulteration prosecutions. We are very pleased to see that he has at last begun to appreciate the gravity of offences against the purity of food. At Lambeth, on June 29th, George Smith, of Manor Farm, Stockbridge, Hants, was summoned, on behalf of the Lambeth Vestry, for selling milk to which water to the extent of 40 per cent. had been added.—Mr. H. J. Smith, solicitor to the Vestry, stated, in support of the summons, that the milk was seized at Vauxhall Railway Station, the point of delivery, and upon being analysed was found to contain 40 per cent. of added water. The Vestry regarded the case as a very bad one, as milk dealers in London were frequently punished, although probably the farmers in the country, from whom they derived their supply, were to blame. Mr. H. T. Wiggs, an inspector appointed by the Vestry, in cross-examination, said the churn was not fastened in any way, and it would have been possible for it to have been tampered with after it left the defendant's premises. He had heard it suggested that railway servants sometimes tampered with the milk.—Mr. Blackwell, for the defence, said the defendant would tell the Court that he did not, nor did anyone by his orders, put any water into the milk.—Mr. Biron fined the defendant £9 and 32s. 6d. costs.

**HORLICK'S**  
**MALTED**  
**For Infants**  
**and Invalids.**  
**MILK**  
**CONTAINS PURE MILK, WHEAT AND BARLEY MALT.**  
**NUTRITIOUS, DIGESTIBLE. GUARANTEED ABSOLUTELY PURE.**  
**OF ALL CHEMISTS AND STORES.**  
**SAMPLES FREE. 39, SNOW HILL, E.C.**



## THE IMPORTANT VINEGAR TRADE PROSECUTION.

At the Sheffield Police-court, on June 29th, before Mr. Jeremiah Robertshaw, Mr. Percy Rawson, and Mr. Isaac Milner, Thomas Congreve Marshall, 10, Netherthorpe-street, vinegar manufacturer, appeared on a summons adjourned from June 1st to answer an information laid at the instance of Dr. Littlejohn, medical officer of health, charging him with having on April 2nd sold to William Harrison, inspector of nuisances, 12½ gallons of vinegar, purporting to be malt vinegar, but consisting of 20 per cent. of malt vinegar and 80 per cent. of dilute acetic acid. Mr. Sayer, deputy town clerk, prosecuted, defendant being represented by Mr. A. Neal.

The Chairman, on taking his seat, said that this case had been adjourned on the application of Mr. Neal for an analysis to be obtained from Somerset House. That analysis had been obtained, and had been submitted to the Court. He thought that the prosecution should be given an opportunity of dealing with this analysis. Mr. Sayer then read the following document, which had been received from Somerset House:—"We hereby certify that we have analysed the vinegar, and declare the results of our analysis to be as follows:—Specific gravity, 1011·85; acetic acid, 4·08 per cent.; total solids, 1·58 per cent.; ash, 0·0728 per cent.; phosphoric acid ( $P_2O_5$ ), 0·0118 per cent.; saccharine matter, 0·9 per cent.; nitrogen, 0·0105 per cent.; alcohol as proof spirit 0·55 per cent. We are of opinion that this vinegar has been prepared by mixing products derived from the fermentation of malt and sugar, with acetic acid obtained by the destructive distillation of wood. From a consideration of the analytical results we are of opinion that the acetic acid derived from woods does not exceed a fourth of that present in the vinegar.

"(Signed) "R. BANNISTER, F.I.C., F.C.S.  
"G. LEWIN, F.I.C."

He would call the attention of the Court to the fact that there was practically no difference between the certificate of the official referee and that of Mr. Allen.—Mr. Neal said he agreed there was no difference in substance.—Mr. Sayer called attention to the fact that the Somerset House authorities expressed no opinion as to the proportion of malt vinegar present, but divided the conditions into vinegar derived from fermentation of sugar and acetic acid. Mr. Allen, he would point out, expressed no opinion as to the 80 per cent. of matter not derived from malted or unadulterated grain. The Somerset House authorities had not addressed themselves as they might have done to either contradicting or corroborating Mr. Allen's analysis.—Mr. Neal: They did not know his analysis.—Mr. Sayer: They do. They asked, and we told them.—Mr. Neal: Oh! then there have been some secret proceedings of which we know nothing.—Mr. Sayer: This information was sent up to Somerset House, and nothing was said about the certificate. An inquiry was made by Professor Bannister, who asked what the adulteration was said to be, and his query was answered by the magistrates' clerk.—Mr. Neal: I don't object to anything which has taken place between the officials of this Court and Somerset House.—Mr. Sayer: This communication was between Somerset House and the clerk of the justices.—Mr. Neal: I don't complain at all of that.—Mr. Sayer continued that he could not compliment the Somerset House people on the form in which their certificate was drawn up. He thought they ought to have directed themselves more specifically to what the complaint was. They should have directed themselves more either to confirm Mr. Allen or contradict.—Mr. Neal said he was very glad Somerset House had been consulted and he was glad to find what he expected, that among analysts of standing while there was no divergency in the result of their analysis there were very great differences in the inferences which they drew from similar facts. He would call their worships' attention to the fact that the Somerset House authorities did not condemn this vinegar or say that it was not saleable commercially as malt vinegar. What they did say enabled him to put before the Court his defence in the fullest possible manner, and gave him confidence in asking that the case should be dismissed. Their worships would recollect he had informed them that this man Radford who sold the vinegar had no right so to do, and was not authorised to act as agent for Mr. Marshall. That gentleman invariably put on every barrel he sent out the following label, which exactly agreed with the certificate from Somerset House:—"This article is guaranteed pure and wholesome, and is prepared from malted saccharine matter and the pure acid which forms the chemical basis of all vinegar. It is guaranteed free from sulphuric acid, poisonous or deleterious matter." Now Radford was not an agent, and had no right to sell this stuff. Under the circumstances he did not wish to use hard names, or to say that his client had been tricked, but the result of the operation by the Corporation officials was that a barrel of vinegar was obtained unlabelled, and Mr. Marshall had been laid open to these proceedings. He would further call their worships' attention to the facts admitted by Mr. Allen in cross-examination, that acetic acid was the basis of all vinegar, and that the suggestion was that the vinegar had been adulterated by its chemical basis. He also said that pure acetic acid from whatever source obtained was chemically and analytically undistinguishable. It seemed to him science run

mad to say that one could adulterate an article with the very thing which was its foundation. They could not have vinegar without acetic acid, and yet they said it was adulteration when acetic acid was put to it. The lowness of the phosphates and nitrates were the two chief signs by which an analyst detected malt from other vinegar. It was also admitted that if present in more than ordinary quantities these nitrates and phosphates tended to make a bad-keeping vinegar. The Corporation was standing up for a vinegar which would not keep, and which destroyed the pickles and other things in which it was brought into contact. His client had made the experiment. He had sold pure malt vinegar, and it had been returned to him. Now vinegar might be derived from a variety of things in addition to malt, and if sold as vinegar could not be attacked. On the last occasion the deputy town clerk took the opportunity of saying that this vinegar could be produced at 2d. or 3d. a gallon. He asked Mr. Sayer if he was going to prove that, and he said he would, yet he had not asked a single question about it, and the result had been most disastrous to Mr. Marshall. A statement had been made by an official of the Corporation, who said he was going to prove it, that Mr. Marshall was producing an article at 2d. or 3d. a gallon and retailing it at 7d., 8d., or 9d. He protested strongly against matters of that kind being introduced. They were not founded on fact, and no attempt had been made to prove them. Mr. Sayer further said he seriously doubted whether this man had a brewery at all, and insinuated that what he had was simply one or two mash tubs.—Mr. Sayer: I did not go so far as that; I did not believe he had any mash tubs.—Mr. Neal, continuing, said the authorities at Somerset House had taken an exceedingly wise and proper course. On two separate occasions without notice they had visited his client's brewery and inspected the premises thoroughly, and he might say that the premises were open at any time for the inspection of the city authorities. It was very wrong for a public official to have endeavoured to damage this man in his business, and whatever the result of that paltry prosecution might be to suggest that he had no brewery but simply a hole and corner place where he carried on a bogus business.—George Radford, carter, employed by Mr. Marshall, was then called, and, in reply to Mr. Neal, said he had no authority to sell this vinegar. When the inspector came to the brewery he never asked for malt vinegar in his hearing, but simply for "vinegar."—Radford was cross-examined by Mr. Sayer as to the process of brewing at the premises of Mr. Marshall.—Mr. Marshall, the only other witness called for the defence, stated that he had been twenty-three years in the trade. Radford had no authority to sell for him. He brewed some 1,500 gallons a week, and it was certainly untrue that he had no brewery. He had made vinegar entirely from malt, but it spoiled his trade. It would not keep and spoiled the pickles. From a business point of view he would consider it exceedingly bad brewing to brew pure malt vinegar. There was nothing in his article but malt and sugar vinegar in equal proportions, and he thought from 20 to 25 per cent. of acetic acid. It was not true that the vinegar could be produced at from 2d. to 3d. a gallon. The raw materials cost him 3½d. a gallon without any labour.—Cross-examined, witness said that his vinegar had been analysed six times by Mr. Allen, and each time he had given a different report. He was of opinion that to put any more malt in his vinegar would be deleterious. In every 120 gallons of malt vinegar he had 14 stone of malt, and to this he added 120 gallons of saccharine matter brewed and pumped in with the other and then added the acid. He used fifty gallons of acetic acid to every 1,250 gallons of vinegar. There were actually occasions when people insisted on having pure acetic acid supplied to them. He remembered the 30th August last when four persons were fined for selling his vinegar. He then paid the fine, and gave a promise to the magistrates not to get his customers further into trouble, but to take steps to prepare a proper label.—The magistrates retired, and after an absence of a quarter of an hour returned.—The Chairman said Mr. Neal had raised two points—first, as to the agency of Radford; and second, as to the article sold. They had considered both these points, and were still of opinion that Radford was an agent acting on behalf of Mr. Marshall, and also that the article sold was sold as malt vinegar and was not such. They therefore fined Marshall £5, including costs.—Mr. Neal asked their worships to fix the amount of sureties required in view of an appeal. The sureties fixed were one in £50 and two in £25.

At Witham Petty Sessions on June 19th, the Hon. C. H. Strutt presiding, George William Drane, of Tolleshunt D'Arcy, was fined 5s. and costs for selling to Mr. Superintendent Gillis a quantity of coffee adulterated with 25 per cent. of chicory.

CLAY CROSS LOCAL BOARD AND ADULTERATION.—A letter was read from Mr. Outram announcing that he had been appointed inspector of food and drugs for the county, and asking for the co-operation of the Board in securing samples, etc.—It was understood the Board's sanitary officer would act with Mr. Outram.

ADULTERATING WHISKEY.—At Ruthin Police-court, on June 18th, John Henry Hughes, of the Red Lion, Gyffylling, near Ruthin, and Thomas Williams, of the White Bear, Ruthin, were fined 30s. including costs, for selling to Supt. E. Jones, of Denbigh, whiskey that was adulterated with water. The adulteration was 41½ per cent. in the former, and 6½ per cent. in the latter case.



## THE BEER ADULTERATION SWINDLE.

ONE of the pleasantest, and certainly the most profitable, of rôles that any Members of Parliament can assume, is that of being a person of wondrously high character, and if one has a few friends to proclaim that character to be the quintessence concentrated of sublimated public honesty, the public in time can be really gulled into believing that the profession is just as good as the reality. We foretold weeks ago how the debate upon the beer duties would result. In the House of Commons on Wednesday, Mr. Quilter moved what we have often advocated in these columns—that the extra duty should be limited to the adulterated trash brewed from substitutes instead of from barley, malt, and hops. Mr. Quilter's speech was full of significant facts. He stated that his object was to encourage the product of pure beer, and to increase the interest of agriculture. Reform in the direction of pure beer was one of the most popular proposals in the programme of the National Agricultural Union. Of 32,000,000 barrels of beer brewed every year, a very large proportion was prepared from substitutes for barley, malt, and hops. Although the amendment would have the effect of reducing the amount payable to the Exchequer by about £250,000, that sum might be met by a licence charged to the users of substitutes, on the same lines as those which had governed the granting of the licence to the users of sugar. The licence, he now suggested, might be increased in amount according to the number of barrels brewed. Although, according to certain official returns, the use of sugar in brewing was not absolutely necessary, the total amount used in 1856 had been 1,790,528lb.; in 1876, 98,143,732lb.; and in 1893, as much as 237,772,280lb. No beer in the world was more refreshing than that brewed in Bavaria, and the reason was the stringent application of the law forbidding the use of any substitute for barley, malt, and hops.

The lineal descendant of the Plantagenets, our worthy Chancellor of the Exchequer, opposed this amendment on what is possibly the most immoral ground ever advanced by a responsible minister of the Crown. Sir William Harcourt stated that by this amendment they would be legislating against the great majority of brewers, whose pundits had said that 10 per cent. of raw grain—sago, maize, or rice—or of sugar could be used without spoiling the article. Moreover, there was nothing to prevent the use of Russian barley. In the interests of the Revenue, he must protest against this proposal, which would be absolutely destructive of the revenue derived from this source. The question of pure beer was not a new question; it had been pressed upon Government after Government; it was pressed for six years on the late Government, and they rejected it. In the public interest he was bound to decline to accept the amendment (Ministerial cheers).

A more dishonest answer than this, that in the public interest he was bound to decline to accept Mr. Quilter's amendment, it would be hard to find, and there is little wonder that Sir William Harcourt's defence of adulteration was received with frantic applause by the brewing gang who so largely control the House of Commons.

Of course, that embodiment of all that is excellent in high character, Mr. Whitbread, was enraptured with Sir William's speech. His reasons for opposing the proposal to make beer again a pure and wholesome drink were such as might be expected to emanate from so good a man. He argued that such a law would tell entirely in favour of the larger and wealthier firms, and disastrously against the smaller and poorer brewers. To take such a step would practically ruin the smaller man, and he should not now lay himself open to the charge that he was a party to the fixing of a charge upon the poorer firms who were less able to bear it than the richer brewers, whom it would affect only in a much lesser degree.

There is a Pecksniffian flavour about this plea that merits a little attention. As Mr. Long stated, the member for Bedford is not only a great brewer, but a virtuous brewer; but Mr. Long omitted, in his castigation of Mr. Whitbread, to point out the fact that Mr. Whitbread's statements that this proposal would injure the smaller brewers are absolutely untrue. Mr. Whitbread knows as well as any of those members who are concerned with defending the sale of adulterated beer, that it is not the smaller brewers who practise this adulteration. Those who have made enormous fortunes out of it are the large firms in Liverpool, Manchester, and other of our great cities and towns, who own their many hundred of tied houses and are able to get rid of any amount of swipes as beer. These are not small brewers. The plea, therefore, that such legislation must be resisted on account of the small brewers is neither more nor less than pharisaical humbug. Of course, the Chancellor of the Exchequer made the most of what he called the important evidence given by the honourable member for Bedford, and the honourable member for Wimbledon—both brewers—and the amendment to secure pure beer was defeated by a majority of 57 votes.

The fact, however, that there were 196 members of the House of Commons in favour of the proposal is a very significant and encouraging one, and we trust that a pure beer Bill will be pressed forward with increased energy; and that, despite the excellent character of that worthy man Mr. Whitbread, and his solicitude for the smaller brewers, the day is not far distant when the maker of swipes will be compelled to label it, stating the exact nature of its constituents.

## THE ARTIFICIAL COLOURING OF SUGAR.

June 21st.

SIR,—In your issue of June 16th, a letter appears from Messrs. Lyle & Sons bearing upon the "artificial colouring of sugar" with reference to "refiners' yellow" and Demerara crystals.

Messrs. Lyle are quite at liberty to say what they please about their own sugars, but when they take upon themselves to assert that Demerara cane sugars are artificially coloured equally with their own, they should take care to make themselves acquainted with the details and principles of Demerara manufacture before committing themselves to a statement so damaging to the latter.

As a matter of fact, the lemon-yellow colour of true Demerara sugars—and also of West Indian sugars made on the Demerara system—is derived from the colouring matter of the cane juice itself; the chemical methods of clarification and purification adopted, which cannot in any sense be described as the use of colouring matter, are rendered necessary in order to leave the colouring matter present in the juice in its natural condition.

The colour of Demerara sugars, therefore, due to the cane juice itself, admits of no comparison with the aniline dye used to colour the crystals of Messrs. Lyle.

Messrs. Lyle go on to say "many planters have copied the system of colouring adopted by us." This is misleading, the real facts of the case being that in a few isolated cases, where a good natural colour was not obtainable, from difficulties connected with the manufacture, colouring matter was experimentally tried, but almost universally with unsatisfactory results. I am, &c.,

N. LUBBOCK, Chairman.

West India Committee, Billiter House, E.C.

## ADULTERATED MILK.

At the Wolverhampton Police-court on June 20th, a milkman named Thomas Samuels, of Tividale, was summoned for selling adulterated milk. A pennyworth of milk was purchased from the defendant by an officer of the County Council, and upon being analysed it was found to contain 13 per cent. of added water. Defendant pleaded that the milk came from his own cow. The Stipendiary remarked that the inference was that part of it had come from the cow with the iron tail. A fine of £5 and costs was imposed, or in default, two months imprisonment.—For selling milk from which an illegal amount of cream had been extracted, the following persons were each fined 20s. and costs:—Winifred Perry, 71, Worcester-street; Henry Burgess, 228, High-street, Bloxwich, and of the Wolverhampton Market Hall; Henry Dunn, 24, Snow Hill; and William Lowe, 5, Worcester-street, all refreshment-house keepers.

At the Leeds City Police-court on June 25th, Nathaniel Langley, farmer, of Adel, Leeds, was fined 50s. and costs on each of two charges of selling adulterated milk. The case was proved by Inspector Walker, and Mr. C. C. Jolliffe, the deputy town clerk, prosecuted on behalf of the Corporation.

## WATER IN BUTTER.

WILLIAM ATKINSON, Waringstown, was prosecuted at Lurgan Petty Sessions on June 19th, for selling adulterated butter. Sergeant John O'Grady, inspector of food and drugs, prosecuted, and Mr. C. Johnston defended. The complainant said he went to Mr. Atkinson's shop and purchased one and a-half pounds of butter, and had a portion of it analysed by Sir Charles Cameron, the public analyst for county Down, and he produced Dr. Cameron's certificate, from which it appeared that the butter contained 18 per cent. of water, while 16 per cent. was the largest quantity generally permitted. The Clerk (Mr. Magahan) said he had written to Sir Charles, who replied that anything in excess of 16 per cent. of water was an adulterant, on which prosecutions had been sustained in other parts of Ireland. Mr. Johnston stated that the law laid down no standard for water in butter. The matter had been discussed by the Belfast grocers, who recommended that 20 per cent. should be fixed as the standard, but to fix the standard at 15 or 16 per cent. would shut 50 per cent. of Irish butter out of the market. Evidence having been given to show that the defendant had purchased the butter from a respectable farmer, the Court held that there was no established standard on the subject, and dismissed the case.

## CONTRACTS FOR DISINFECTANTS.

### IMPORTANT NOTICE!

To Local Boards of Health, Vestries, and Sanitary Authorities generally.

**THE SANITAS COMPANY, LTD.**, beg to give notice that they have reason to believe there are several unprincipled firms who are offering for sale more or less worthless and fraudulent imitations of the well-known "Sanitas" Disinfectants.

The various "Sanitas" Disinfectants are all manufactured by scientific processes which are protected by Letters Patent, and in order to guard against the nefarious practices above referred to, it is respectfully suggested that all contracts for "Sanitas" Disinfectants and Appliances should be entrusted to the Sanitas Company, Ltd., who are the sole manufacturers, or that a stipulation should be made making it obligatory upon contractors to supply the goods in our original sealed packages.

## THE SANITAS COMPANY, LIMITED

(G. T. KINGZETT, F.I.C., F.O.S., Managing Director)

LETCHFORD'S BUILDINGS, THREE COLT LANE, BETHNAL GREEN, LONDON, E.



## CONFERENCE ON THE SALE OF FOOD AND DRUGS ACT.

At the instance of the Vestry of St. George's, Hanover-square, W., a Conference of local authorities was held at the Vestry Hall, on June 22nd, to consider the desirability of taking action with the view to the Sale of Food and Drugs Act being amended, so as to bring the manufacturers of and wholesale dealers in adulterated articles within the scope of its provisions; and also to empower inspectors in one district to take samples at the railway stations in another district for consignments to vendors in their own district.

On the motion of Mr. Adkins (St. George's), the Hon. Alan de Tatton Egerton was elected chairman.

The Chairman said that the Conference was called in consequence of the failure of the local Food and Drugs Committee to carry out the Food and Drugs Act. Since that step was taken the Government had appointed a Select Committee of the House of Commons to go into the whole question, and see what amendments should be brought forward. The Food and Drugs Act Committee of the St. George's Vestry had formulated a few suggestions for them to take into consideration, as follows:—“(1.) Inspectors should be empowered to take samples at any railway station or other place of delivery by consignors or wholesale dealers, whether within or outside of the district for which they are appointed, of any articles which may be consigned or addressed to any person or company within the limits of their respective districts. (2.) No warranty shall be admitted as a defence unless at the time of purchase the vendor shall produce to the purchaser, and allow him to take a copy of any warranty on which he intends to rely, or shall within twenty-four hours send to the purchaser a copy of such warranty. (2A.) To amend Sec. 14 of 38-39 Vic., chap. 69, by substituting the word ‘four’ or ‘fourth’ for the words ‘three’ and ‘third,’ and adding words to secure that one part of sample should be sent to the person giving the warranty. (3.) Nothing shall be held to be a warranty unless it shall clearly and accurately describe the article to which it relates, and shall give the date and full name and address and description of, and be signed by the person giving the warranty, or by some person duly authorised on his behalf. All warranties should be in a form to be set out in a schedule to the Act, and should not be received in evidence unless the warrantor or duly authorised agent resides within the United Kingdom. (4.) Where a warranty is relied upon and is produced as before-mentioned, when the inspector or local authority of the district where the purchase was made or to which the article was consigned, may summon the person giving the warranty as well as the immediate seller or consignee, and such proceedings may be taken in the court having jurisdiction in such district. The summonses should be heard together, and the magistrates should be at liberty to convict either or both the defendants in a penalty not exceeding £20 and costs for the first offence and more for repeated convictions. (5.) Any article bearing a label describing the contents of the package shall be held to conform to the name or description on the label to which the greatest prominence is given, and any article differing in substance or purity or proportion from such description or descriptions shall be held to be an adulteration under the Act. (6.) A uniform standard for milk should be fixed, and any milk found below this standard should be held to be adulterated. (7.) The magistrates should give reasonable costs in successful prosecutions, and not merely a nominal sum as at present.” Besides those suggestions of the St. George's Board, Mr. H. Mansfield Robinson, of Shoreditch, has had submitted the following suggestions:—“(1.) That the defence of a written warranty shall not be set up by the retail dealer, except when he shall have notified to the inspector when taking the sample the name and address of the person giving the warranty. The inspector shall then proceed to divide the sample into four parts, sending one part to the wholesale dealer, who shall then be liable to the same proceedings as if he had sold the article to the inspector direct. (2.) That all itinerant vendors of milk shall only sell from vehicles or barrows having printed thereon the name and address of the person who shall be responsible as master for such sale, and all itinerant purveyors of milk, whether employers or employed, shall be registered with the County Council of the district, and it shall be an offence under the Act for the vendor of any article to give a false name and address of himself or his employer to an officer under the Act. (3.) That a minimum penalty of 40s. be imposed for all offences under the Act, and that the defendant shall be liable to a double penalty for a second offence and a treble penalty for a third offence. (4.) That a standard of purity for milk and butter should be fixed by the Local Government Board, with power for them to alter it in case of exceptional seasons. (5.) That the retail dealer shall have the same power to bring the wholesale dealer (from whom he has bought the article, in the same state as that in which he sold it) before the Court for conviction, as is given to the purchaser of unsound food, under Section 47, subsection 3, of the Public Health (London) Act, 1891.”

Major Creswell (St. James's Vestry) said that in many cases the profit on the articles sold was so great as to enable persons convicted to pay the fines with impunity, and he thought suggestion 4 should be amended in such a way so that it should read that after certain convictions imprisonment should follow, and in some cases hard labour, as the sale of such articles was a danger to the public.

The Chairman said that the suggestions should be taken one at a time and discussed, and that the suggestions from Shoreditch should be incorporated where necessary. He formally moved the first suggestion of the St. George's Vestry.

Mr. Easton (Fulham) moved that after the word inspectors “or other authorised persons” should be inserted, and this was agreed to.

Mr. Gofton (Islington) said it was clear that under the Act of 1879 the authorities had power to take samples of milk at the railway stations, but not of food and drugs, and he moved that those words be inserted.

After further discussion it was decided to amend the suggestion so as to read:—“Inspectors or other duly authorised persons should be empowered to take samples of foods and drugs in course of delivery by consignors or wholesale dealers,” etc.

Mr. Easton wished to add words to the suggestion that it should be within the power of any person on tendering a fee to the vestry to have samples of any article taken in course of delivery, but the suggestion was not accepted.

### THE QUESTION OF WARRANTY.

Dr. Muter thought warranty should be abolished altogether.

Mr. Brooks (Wandsworth) moved the following amendment:—“This Conference is of opinion that the best way to meet the object aimed at is the repeal of Section 25 of the principal Act, and to substitute therefor a provision similar to the proviso of Section 42 of the Public Health Act, London, 1891, to the effect that where a person is charged with an offence under the principal Act he should be entitled, on information duly laid by him, to have any other person being the wholesale trader, manufacturer, or other person from whom he purchased the article, brought before the Court at the time he is charged, and if he proves to the satisfaction of the Court that he sold the article as he purchased it, he shall be exempt from all penalties, and the said vendor shall be liable to conviction.”

Mr. Jones (Hammersmith) seconded the amendment.

A delegate strongly urged that the time for prosecutions should be extended.

Mr. Millar (Wandsworth) said that if they did away with the formal warranty and assumed that there was a warranty with everything, a man would only have to prove that he delivered the article in the same way as he received it, and then the onus of the matter would fall upon the manufacturer or wholesale dealer.

Mr. Easton moved another amendment, viz. :—“Any dealer pleading a warranty shall cause the warrantor to attend the Court, and upon his proving to the satisfaction of the magistrate that he sold the article as he received it, the warrantor shall be charged with the offence, and proceedings against the dealer shall be discharged.”

Mr. Payne seconded the amendment.

On a show of hands, Mr. Easton's amendment was lost, and the resolution of Mr. Brooks adopted in lieu of Clause 2 and of the St. George's suggestion.

The Chairman said the question involved in Clause 2A was that where a manufacturer was brought in he should have a sample.

It was pointed out that the clause was not needed, and it was struck out.

As the amendment to Clause 2 did away with the question of warranty, Clauses 3 and 4 were not needed, and were accordingly struck out.

### THE LABEL QUESTION.

The Chairman formally moved that Clause 5 be adopted, and said it would specially apply to milk preparations which had an enormous sale.

Mr. Robinson said that the weak point of the Clause was that it did not say that the proportion of the contents should be stated, and he would move that the proportions of the mixture should be stated on the label.

Mr. Hughes said he was under the impression that the Swiss milk could not be opened to be analysed.

The Chairman said they had done it in that parish.

Mr. J. H. Smith (vestry clerk) formulated the suggestions so as to read after the opening words, “Any article bearing a label” as follows:—“shall describe the contents of the package, and where the contents are sold as a mixture the proportions of the mixture shall be stated.”

Mr. Kerrell said that as a manufacturer of baking powder he regretted there was no law to touch the adulteration of that article with alum.

The amended clause was adopted.

*To be continued.*

### TEMPERANCE BEERS.

SOME revelations made at Aberdare Police-court last week will alarm teetotalers, it being proved that a vendor of temperance beer was selling a liquor that contained rather more than 7 per cent. of alcohol, a quantity even in excess of the alcohol contained in ordinary beer, and some 3 per cent. more than is found in lager beers. It would be interesting to know if the various temperance hop beer, etc., now so largely advertised, are really devoid of alcohol, as it must be anything but satisfactory to the staunch teetotalers to learn that they are drinking of the alcohol they so vigorously denounce even more than an average beer drinker.



## THE SELECT COMMITTEE ON ADULTERATION.

THE first sitting of the Select Committee appointed to inquire into the adulteration of food stuffs, dairy produce, and drugs, and the working of the Sale of Food and Drugs Acts of 1875 and 1879 and the Margarine Act of 1889, took place at the House of Commons on Tuesday last. Sir Walter Foster presided, and the members who attended were: Mr. Herbert Gardner, Sir Charles Cameron, Sir Mark Stewart, Mr. Channing, Mr. H. E. Kearley, Mr. J. J. Coleman, Mr. F. Frye, Mr. Jeffreys, Mr. Yerburch, Captain Bagot, Colonel Warde, Mr. Lambert, Mr. Kennedy, Mr. Kilbridge, and Mr. Colston.—The first witness to give evidence was Mr. Preston Thomas, of the Public Health Department of the Local Government Board, who stated in answer to the chairman that the Acts of Parliament which came chiefly under his notice in the course of his official duties, were the Sale of Food and Drugs Act of 1875, the Amending Act of 1879, and the Margarine Act of 1889. The former, he explained, provided for the appointment of public analysts for county boroughs and boroughs having their own police establishment for the City of London and for each of the London vestries. This was slightly altered by the Local Government Act of last session, which took away from boroughs of less than 10,000 population the right to have analysts of their own, and placed them under the County Council. In reply to an inquiry from the chair as to the extent to which this power of appointing analysts had been taken advantage of, Mr. Thomas said practically in all districts the authorities had either appointed their own analyst or made an agreement for the services of the analyst of some neighbouring district. The Chairman: Can you give us any figures as to the number of analysts appointed?—Mr. Thomas: There are 61 acting for administrative counties, 61 for county boroughs under section 10 of the Act; three acting for county boroughs under section 11—that is, by agreement. There are 68 appointed by non-county boroughs with a population of over 10,000, and there are three acting for non-county boroughs by agreement under section 11. Then there is an analyst acting for the City of London, who is appointed by the Commissioners of sewers, and there are 40 analysts acting for vestries and district boards. That makes a total of 237 districts for which analysts have been appointed or are acting under agreement, and that practically covers the whole of the country.—The Chairman: These analysts are all men of good qualifications?—Mr. Thomas: Yes. Before the Local Government Board give their approval to the appointment of an analyst they require a statement of qualifications, and he must produce evidence of competent microscopic and chemical knowledge, and also, to a certain extent, medical knowledge—that is, the effect of adulteration upon health.—The Chairman: In some cases these analysts act for a number of districts?—Mr. Thomas: That is frequently the case.—The Chairman: Can you give us any examples?—Mr. Thomas: I am hardly able to do so now, but in a great many cases analysts act for five, seven, or eight districts.—The Chairman: Where do they reside?—Mr. Thomas: Very often at a distance from the district; but no difficulty results, because there is a special provision in the Act of 1875 so that samples may be sent through the post. This brings the analyst within a day of the purchasing inspector.—The Chairman: Then you are of opinion that it causes no inconveniences?—Mr. Thomas: So far our information shows none.—The Chairman: The authorities are not only empowered to appoint analysts, but to obtain samples. Through whom?—Mr. Thomas: Certain officers named in the Act. The medical officer of health is empowered to do so, but the officers generally are the inspectors of nuisances and the inspectors of weights and measures. In some places the police take samples—rather in the counties than in the boroughs.—The Chairman: Do private persons obtain them?—Mr. Thomas: They may; but the provision enabling them to obtain the analysis of samples on payment of half a guinea has not been taken advantage of. I think it is because persons do not like to go through the trouble and formality of getting samples, and would not do so without a very clear idea that they are being cheated. Practically, with the exception of a very small number, all the samples that are analysed are taken by inspectors.—The Chairman: The first part of the Act deals with certain special adulterations?—Mr. Thomas: That deals with adulterations injurious to health and it has been very little used. In the first place, I believe it is because adulterations injurious to health are diminished since the old days of the *Lancet* inquiries. Moreover, the fines are high, and guilty knowledges have to be proved, which is very hard to do. This has not to be done in the second part of the Act.—The Chairman: Then you think the proof of guilty knowledge is one explanation of its not being used?—Mr. Thomas: I think so. The second reason I should give is that such adulterations have diminished. If we are to believe those old inquiries, people were poisoned constantly. Now, if they are cheated, they are not poisoned.—The Chairman: You told us the second Act was passed in 1879; for what purpose?—Mr. Thomas: To settle some legal difficulties which had arisen, owing to a decision of the High Court in Scotland, on the interpretation of “to the prejudice of the purchaser.” It was contended that he could not be prejudiced if he bought, not for himself, but for the public. That view was upheld in Scotland, but the English Courts decided the other way. Therefore the Act was passed, making it plain that an inspector might be prejudiced. Then the Act authorised samples of milk to be taken from railway stations; and it fixed the standard strength of spirits and made certain provisions as to the time within which

summonses must be served in respect of perishable articles.—The Chairman: Then the Margarine Act proceeded further?—Mr. Thomas: It proceeded further but not quite in the same direction. It was not an amendment of the Sale of Food and Drugs Act, although certain of the provisions of that Act were included in it. It provided that every quantity of margarine sold should have a wrapper bearing the word “Margarine” in letters  $1\frac{1}{2}$  inches square. The vendor was protected by a warranty or an invoice. Then inspectors might take samples of any butter without going through the form of purchase provided by the Food and Drugs Act. It is not quite clear whether the form of purchase includes the essential of purchase, that is, paying for the sample. I do not think the point has been settled whether an inspector may take a sample without paying for it. Under the Food and Drugs Act he has to pay for every sample.—The Chairman: Then, under the Margarine Act, the maximum penalty was raised?—Mr. Thomas: That is so. It was raised from £20 under the Sale of Food and Drugs Act—or £30 in the first part—to £80 or £100.—The Chairman: There have been many decisions arising out of these Acts?—Mr. Thomas: A very large number. I have a note of between 60 and 70 decisions. Mr. Thomas agreed and prepared a digest of the decisions he had noted, and presented it to the Committee.—Replying to a question from the chairman as to the administrative work of the Local Government Board in connection with the Acts, Mr. Thomas said the Board scrutinised the qualifications of public analysts. He thought the science of analysis had made extraordinary progress in the nineteen years that had passed since the Sale of Food and Drugs Act came into force. He attributed that to the efforts of the analysts, and he thought there had been very few incompetent members of that profession admitted to public appointment.—The Chairman: The Board have also a return from each local authority?—Mr. Thomas: Each local authority sends a copy of the four returns that the analysts have to make in the course of the year. Each analyst has to make a quarterly report, and a copy of these reports for the year is sent to the Board.—The Chairman: And the Board make an abstract of them in their annual report to Parliament?—Mr. Thomas: That is so.—The Chairman: Can you give us some account of the figures relating to these analyses between 1877 and 1893?—Mr. Thomas: From 1877 to 1883 the number of samples rose pretty steadily from 14,705 to 19,648. In 1884 the Board issued a circular to Sanitary Authorities urging them to exercise their powers in submitting samples. I ought to have stated earlier that all authorities, besides those appointing analysts, have the power to collect samples and send them for analysis. Before the circular they had not taken much notice of the matter, but after it the authorities exercised their powers much more extensively and there was a sudden rise from 19,648 to 22,951 and the subsequent increase has been pretty constant. The number of samples analysed in 1893 was 37,293, showing an increase of 173 per cent. as compared with 1877, while the population has only increased 19 per cent. The Board have urged that at least one sample should be taken for every 1,000 of the population.—The Chairman: That was the standard the Board sought to attain?—Mr. Thomas: That was the minimum standard the Board thought would secure the proper administration of the Acts. It was not till 1891 that that proportion was reached, but by last year things had got better and the proportion had risen to the one sample for 779 of the population.—The Chairman: Then it took from 1876 to 1891 to reach the minimum standard laid down? Since 1891 you have got beyond it. These figures are based upon the general average all over the country?—Mr. Thomas: That is so. In some districts many more samples are taken, while in others the number is much fewer. In London the proportion was one for every 530, and in the provinces 842. In some districts the Acts are practically a dead letter.—The Chairman: Can you give us examples of those districts in which the Acts are practically a dead letter?—Mr. Thomas in reply said that within the jurisdictions of the County Council of Hereford and Montgomery, and the Town Councils of sixteen boroughs, including Northampton, Colchester, and Dover, not one sample was taken. Within the jurisdiction of the County Council of Derby and several others and a number of boroughs the number of samples taken was so small as obviously to afford no security against adulteration. In all there were 45 districts, with a population of 3,000,000 in which the Acts were either a dead letter or the number of samples taken was quite insignificant. In all those districts there were only 546 samples or one for every 5,000 of the population.—The Chairman: Have you any explanation to give?—Mr. Thomas: No, it depends entirely upon the will of the local authority. In all cases where no samples are taken the Local Government Board address a communication calling the attention of the authority to the fact that the Act is not properly enforced in their district. Sometimes there is some result, but very often not.—The Chairman: And the Local Government Board have no further power?—Mr. Thomas: They have none.—The Chairman: I think it is a satisfactory result in one respect, that the number of adulterations detected is increasing? Can you give us some figures?—Mr. Thomas: I have taken the year 1877 as a commencing point, because in 1876 the Acts were new, and things came in with no fixed plan. Taking the year 1877 to 1881, the percentage of samples reported as adulterated was 16·2. In the following five years ending with 1886 the percentage was 13·9. In the following five years ending with 1891 it was 11·7. It reached its minimum in 1888, being 10·8. Since that there has been some increase, and last year the proportion was 12·9, mainly



owing to the two items, milk and spirits. It is to be remembered that of the samples thus reported against as adulterated there are many in which the adulteration was so small in amount that it was not thought expedient to take the case into Court. The Analyst returned them as adulterated, probably with a recommendation that the amount was not sufficient to warrant proceedings.—The Chairman: Then your figures do not represent the proceedings. They represent the reports of the analyst?—Mr. Thomas: Last year 4793 samples were reported against. Proceedings were taken in 3174 cases and fines imposed in 2687.—The Chairman: Were convictions only obtained in the cases in which fines were imposed or were these cases in which warnings were given? There is a margin between the number of cases undertaken and the fines inflicted.—Mr. Thomas: Some of the cases were dismissed, in others a caution was administered, and others were let off with paying the costs.—The Chairman: Do you know how many were dealt with in each way respectively?—Mr. Thomas: I am not sure, but I could ascertain.—The Chairman: If you would draw up a little table and hand it in it would be useful. These fines came to a considerable amount, I suppose?—Mr. Thomas: The correct amount was £5,091 12s. 8d. The average penalty was £1 17s. 11d. as against £1 16s. 2d. in 1892, and £1 11s. 2d. in 1891. Thus the average amount of the fines has increased.—The Chairman: I suppose there have been complaints about the smallness of the fines?—Mr. Thomas: Yes. Many representations have reached the Local Government Board that it pays to suffer a small fine.—In reply to questions from the Chairman, Mr. Thomas gave some particulars concerning the number of cases in which the maximum penalty had been imposed since 1888, and stated that only two instances were recorded in which the higher penalties under the Margarine Act had been inflicted, one of these being £45 and the other £30.—The Chairman: You have many representations as to the amount of the minimum fine?—Mr. Thomas: Yes, very frequent suggestions that the Board should promote legislation to provide that there should be a minimum fine laid down, but that would be opposed to the whole practice of modern legislation and would not secure the end in view, because many cases in which a small fine is now inflicted would be dismissed if a minimum were fixed—in the case of an old woman for example. At the request of the Chairman, Mr. Thomas stated the various articles analysed during the year, in their order according to the number of samples of each analysed. They were as follows: Milk, butter, spirits, lard, coffee, pepper, vinegar, bread, mustard, tea, beer, flour, confectionery (including jam), cheese, sugar, arrow-root and cocoa. The Chairman: Can you tell us how many samples of milk were analysed in 1893?—Mr. Thomas: Out of 37,293 samples of all kinds, 15,543 were of milk, and 2,310, or 14·9 per cent. were reported against.—The Chairman: In how many cases were proceedings taken?—Mr. Thomas: In 1,542; 152 were dismissed, 55 were withdrawn; in 43 cases costs only were paid. There were 132 fines of £5; 20 between £5 and £10; 33 of £10; 4 between £10 and £20; 20 of £20; 192 were of a half-crown or less; and 243 between a half-crown and 5s.—The Chairman: The chief adulteration in these cases was water?—Mr. Thomas: Yes, if the other additions such as chalk, etc., of which we have heard, were ever used they are not used now.—Mr. Kearley: There would be extraction of cream I presume?—Mr. Thomas: Oh, very frequently.—The Chairman: Has the number of samples reported against declined?—Mr. Thomas: The proportion in the first five years was 22·1; in the second five years 16·7; in the third five years 13·4. In 1892 it was 13·3, and in 1893 14·9.—The Chairman: So it has gone up again. How would you account for the reduction since the first five years?—Mr. Thomas: I think the Acts have had a hand in preventing adulteration. The difference between 21·1 in the first, and 13·4 in the last, five years, may be accounted for by the fact that analysts in the early times took a much higher standard than they do now. Therefore, it is not quite a gain in the reduction of adulteration, but it is an alteration of the analyst's opinions as to what is adulteration.—The Chairman: Does not the quantity of water in milk depend very much on the weather?—Mr. Thomas: That I have heard said. It is curious that the percentage of adulteration depends very much on the weather. In a hot summer, when there is very little grass, and milk is scarce, up goes the percentage of adulteration, as a matter of course. On the other hand, if you have a very wet summer it goes down. In the Jubilee year of 1887 there was magnificent weather and very little grass. Last year it was the same. In 1887 the percentage rose very much and last year again. In 1888, which was a very wet year indeed, when there was an enormous hay-crop and plenty of food for cattle, there was a small percentage of adulteration; it was at its very lowest, namely 10·8.—The Chairman: The coincidence is interesting. Hot weather would act in two ways. It would increase the consumption and lessen the supply and the consequence would be the milkman would have to make it up in some way or other.—Mr. Thomas: And more milk turns sour in hot weather.—The Chairman: This question of milk adulteration is a very difficult one, I believe.—Mr. Thomas: Yes; and the difficulty arises from the fact that science cannot distinguish rich milk that has been watered from milk that has not been watered, but is the product of a very old or poorly-fed cow.—The Chairman: So that a man may have an old cow, and while selling genuine milk present a standard so low as to be reported upon adversely.—Mr. Thomas: That would be so. In answer to other questions Mr. Thomas expressed an opinion that it was impossible that analysts should fix upon any standard

of solids which milk should contain. In examinations of milk from 273 cows by the Somerset House authorities, the total solids contained in the respective samples varied from 10·3 to 15·8 per cent. If between these extremes a high standard should be fixed many genuine samples would be condemned. If a low standard were decided upon milk would be watered down to it. If they fixed their standard low enough to include all genuine milk they might as well give the whole thing up, for it was very rare that watered milk was made so low in quality as that obtained from the poorest cows. They had had instances come to them where milk taken from cows in the presence of experts was found to be of very low quality.—The Chairman: The Acts were not intended to prevent the sale of articles of poor quality but only to put a stop to adulteration.—Mr. Thomas: That is so, and it would not be within the design of the Acts, because the poor man's cow does not produce milk as good as that of the higher-class and better-fed animals to prevent him from selling it.—The Chairman: In different districts the proportions of samples reported against differs?—Mr. Thomas: Yes. In London the proportion was 25 per cent., 19 per cent. in Birmingham, and 18 per cent. in Liverpool. In Manchester it was 5 per cent., and 3 per cent. in Cardiff and Salford.—The Chairman: And it differs in different districts in London?—Mr. Thomas: Yes, and in districts next to each other, where one would think the supply would be the same. In 1888, in Marylebone, out of 258 samples only 15 (or 6 per cent.) were reported against. In St. Pancras, out of 129 analyses, 55 samples (or nearly 43 per cent.) were condemned. In Woolwich the proportion was nearly 6 per cent.; in Greenwich 22 per cent. In 1891 the proportion of adulterated samples ranged from 14·8 per cent. in St. George the Martyr, Southwark, and 47·2 per cent. in Lambeth, to 1·6 per cent. Lewisham, and none in Hampstead, and none in St. James's, Westminster.—The Chairman: Do you think there is any difference in the way the samples were taken to account for this?—Mr. Thomas: That I cannot say. The official papers of the Board do not show any exception.—The Chairman: But in some cases the samples are taken by inspectors in uniform.—Mr. Thomas: Yes, and that is the way to get, not an average supply, but milk with a little extra cream in it. In one case an analyst was astonished because a sample had about twice the amount of cream than the very best milk would contain. The Chairman: In Salford there would probably be something special to account for the low percentage of adulteration.—Mr. Thomas: For a great many years Salford has figured as having one of the best milk supplies in the kingdom.—The Chairman: Have you anything to say about condensed milk?—Mr. Thomas: It is often made from skim milk and contains very little nourishment. Infants would be half starved if fed upon this. Continuing, Mr. Thomas said it was a question whether the sale of milk which had been treated both by skimming and by the separator, did not call for some alteration in the law. The Local Government Board had received an influential representation from analysts and members of the medical profession as to the danger of these brands, some of which were made in Ireland and some in Switzerland, although some of the best Swiss brands left nothing to be desired, and were a great contrast to some of the brands made from separated milk.—The Chairman: Then there are a number of brands which are no good? Has your attention been called to separated milk?—Mr. Thomas: Yes, I understand it is something more than skim milk, because the separator skims it much more effectually.—The Chairman: But still it may be genuine?—Mr. Thomas: Yes, it would come under the description of "skim milk."—The Chairman: At the same time, condensed milk is often genuine and very useful?—Mr. Thomas: But I think the amount of nutriment is very small.—The Chairman: What about butter?—Mr. Thomas: One-sixth of the total samples reported upon are of butter.—The Chairman: The proportion of samples condemned is about the same as milk?—Mr. Thomas: Yes, but whereas the proportion has declined in milk, in butter it has not. In the first five years from 1877 the percentage reported against was 13·9; in the next five years 17·9; the next, 13·4. In 1892 it was 15·3 and in 1893, 13·7.—The Chairman: It is practically now about the same as it was in 1877. After the passing of the Margarine Act was there no difference?—Mr. Thomas: There was a sudden drop in 1888 from 19·5 to 10·4, but the figures have risen since. Some of the figures have been 11½, 15, and 14. In 1893 there were 794 samples reported against; 604 prosecutions were instituted, 29 cases were dismissed, in six the proceedings were withdrawn, in 18 the vendors had to pay costs, and in 551 penalties were inflicted amounting to £1,150 1s. 6d. There was one fine of £45, three of £20, three between £10 and £20, nine of £10, eight between £5 and £10, six of £5, and the others were smaller.—The Chairman: The mixture of margarine with butter has become very general?—Mr. Thomas: That has been the case in late years. On the one hand scientific knowledge has been brought to the aid of the adulterators as well as the analysts, and the act of producing as much water in butter as possible has been brought to a high point.—The Chairman: So that the adulterants are margarine and water?—Mr. Thomas: Yes; but they stand on a different level because, whereas margarine, which is a compound of fats, is an entirely foreign ingredient, water is a constituent of all butter. But in much of the butter we get there is both neglect to squeeze out the buttermilk and also an addition of water.—The witness could not say whether water was added to margarine or whether it affected the keeping power of butter.—The Chairman: We have no knowledge of margarine being injurious to health?—Mr. Thomas: That is so. *To be continued.*



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## Food and Sanitation.

SATURDAY, JULY 14TH, 1894.

### THE LOCAL GOVERNMENT BOARD, ADULTERATION, AND OURSELVES.

For years past, as far as the Adulteration Acts have been concerned, the Local Government Board has been as consistently idle and useless as it could possibly be. In 1887-88 the total number of samples analysed were 24,440; in 1888-89 the samples were 2,6344; in 1889-90, 26,954; in 1890-91 27,465, in 1891-92, 29,028. The increases were 850, 1900, 600, 511, and 1,600 for the years up to 1891-92. In 1892-93 they sprang suddenly to an increase of 3,419, and in the last year, according to Mr. Preston Thomas' showing, there was a further increase of 4,846. The average increase from 1887-93 was 1,092 per year; 1892-93 showed the enormous jump of 3,419 extra samples, and the last year 4,846.

We have stated these facts thus plainly because we wish to call our readers' attention to the evidence given by Mr. Preston Thomas before the Select Committee of the House of Commons last week, in which he claimed on behalf of his Department the credit of these large increases in the past two years because in 1884 the Local Government Board issued a circular to Sanitary Authorities, urging them to exercise their powers in submitting samples. He ignored the fact that they never did anything since, but he coolly arrogated to the Local Government Board the credit for the vast increase in the number of samples analysed during the past two years as the result of a circular eight years before that increase. The Local Government Board has been, as we said, so consistently idle and useless, and has treated the Adulteration Acts in so perfunctory a manner that we can well understand it feels it necessary that it should make a presentable show in the evidence given to the Select Committee of the House of Commons. We do not object to the Board taking credit for any good work it may have done—if it has done any—but we object to it filching from us the credit of the good work we have done, and leading the Committee to believe that that work is the outcome of its own endeavours. We are so accustomed to people stealing our thunder that it matters very little to us how much credit other persons take for work performed by ourselves, so long as the movement to which we have devoted our attention advances in a

DEMY 8vo. CLOTH, 5/-

### THE SALE OF FOOD AND DRUGS.

(The Acts of 1875 and 1879, with notes of the reported case decided since the Acts became Law.)

BY

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satisfactory manner, but when the Local Government Board, who have persistently snubbed every effort we have made to suppress adulteration, has the impudence to arrogate to itself the credit for this increased activity in the working of the Food and Drugs Act, the time has surely arrived when we should speak plainly.

We began our journal on August 13th, 1892, and from that date until the present we have fearlessly attacked manufacturers practising adulteration, local authorities who by their supineness have allowed it to be carried on with impunity, and magistrates who by their ridiculous penalties have encouraged it. At the time of beginning our journal we waited upon Mr. Preston Thomas at the Local Government Board, and frankly stating what our objects were, we asked the Department concerned with enforcing the Food and Drugs Acts to oblige us with copies of the analysts' reports as received by the Department from time to time, in order that the information therein might be communicated to the public, to food and drug inspectors, medical officers of health, etc., and enable these officials to better realise the various kinds of adulteration practised, and become acquainted with new forms of adulteration as they arose. The Local Government Board, with red-taped superciliousness, refused to give us any information whatever to assist our endeavours to suppress adulteration and to cause the Acts to be more adequately enforced. This, however, has not seriously troubled us, for we were not long in discovering that the Local Government Board knew nothing and cared nothing whatever about the question.

Every reader of our journal will agree with us that the fact that within the past two years there has been an increase of 8,265 samples as compared with an increase of 2,111 in the previous two years is due, not to the circular issued in 1884 by the Local Government Board, but to our exertions in suppressing adulteration, and that for the Local Government Board to assume for itself the credit of this work is neither more nor less than a piece of preposterous impudence; the real facts being, that they have done nothing whatever to check adulteration, that the officials concerned with enforcing the Acts have withheld from us—the one public journal concerned with the Food and Drugs Act and the suppression of adulteration—information which, in the public interest, ought to have been freely given to us, that they have been content to draw handsome salaries from the public for practically doing no work of any useful character, and that, as a matter of fact, they have been too lazy to even take the trouble to prepare a report of an original or useful character upon adulteration. For years past, the phrases in the first reports issued by the Board have practically been made to do duty again and again, showing even a paucity of literary power which is pitiable.



It is, therefore, the quintessence concentrated of sublimated impudence for the Local Government Board to endeavour to throw dust in the eyes of the Committee in this manner, and to filch from us the credit of the strenuous work we have done in the public interest for the past two years—a work which we have carried on, despite the fact that every week has brought us its shoal of threats of libel actions, and post-bags of abuse from those who have smarted under our exposures. We have not brought about these results without incurring great expense and grave risks, and we think our readers will agree with us that, as a matter of public fairness, our protest against this statement of the Local Government Board is a very necessary one and one of which the Committee should have cognisance.

## THINGS IN GENERAL.

### PAUPERS' MILK.

It would be a holy and a wholesome thought if those of our readers who have so cordially supported us in our endeavours to suppress adulteration would spare a little time to look after the quality of workhouse milk. We fear there would be found very few unions in which barefaced swindling is not being carried on. At the last Enniskillen Petty Session, Sergeant Sheridan summoned one of the contractors to the workhouse for supplying milk deprived of 22 per cent of its cream. The magistrate imposed a penalty of £1 and 20s. costs.

### ARSENIC IN GLYCERINE.

IN another column an important prosecution for arsenic in glycerine is recorded. In this instance the amount was two grains per lb., and the prosecution has an added importance as showing in what grave dangers unsuspected adulteration might place any innocent member of the public. Previous investigations made by the vigilant Leeds sanitary authorities disclosed the fact that the ordinary commercial glycerine on sale in Leeds contained as much as 4½ grains of arsenic per lb. It is not idle supposition that, were any wife or husband to live together unhappily, as was the fact in the Maybrick case, or to have cause for disagreement, and a bottle of this glycerine were to be found in the wife's possession in case of his sudden death, this circumstantial evidence would go very far to cause her to either lose her life or be immured in prison. So far as we are aware, Leeds is the only place where articles such as glycerine have been examined to test their immunity from unsuspected poison. Fortunately, as a result of our disclosures, it will most probably be rendered impossible that such slipshod, uncertain chemical methods as those pursued in the Maybrick case by the Crown should ever again be allowed to pass practically unchallenged in a Court of Justice. Discoveries like those at Leeds throw a sinister light upon the methods, and upon the character of the chemical evidence that consigned Mrs. Maybrick to lifelong imprisonment. They also show the grave public necessity for a regular and exhaustive examination of all foods and drugs.

### ACTIONS AGAINST VINEGAR MAKERS.

"ONE WHO KNOWS" writes: "We hope you will use your influence to induce inspectors to take action, not so much against grocers, but against vinegar makers, as was done in the case recently decided at Sheffield. There has never been more impure vinegar in the market than at this time, and never has there been more of it palmed off as a genuine article. The makers of the spurious vinegar will now guarantee almost anything, and it is against them, and not against the retailer, that action should be taken."

The objection to taking action against some of the makers of the worst rubbish sold as vinegar has been that they know the chemical incompetence of Somerset House, and would dispute the analysis, with the result that the sample would be referred there and declared pure, as has been the case with some alleged malt vinegars respecting which we have already given particulars in our journal. But it should be carefully noted by all concerned with enforcing the Acts that the Somerset House certificate is simply an expression of opinion, and that magistrates may—as they certainly ought to do, judging by the stupid mistakes made in Somerset House analyses—treat it with contempt. That magistrates have been mistaken in dismissing cases in instances where the Somerset House certificate has differed from the public analyst's is very evident from the remarks of Mr. Preston Thomas, representing the Local Government Board, which we report in another column.

Section 22 of the Act of 1875 does not make the Somerset House certificate final, but merely says that in case of dispute the parties may have an analysis made by that Department. It has been held by the Scotch Court of Justiciary that the reference under this section to Somerset House is for obtaining the results of their analysis merely, and, in the case of *Dargie v. Dunbar*, 11 C. of S. Cas. (Just. 37), that their opinion as to what was a minimum percentage of fat to be found in a new milk could not be received as evidence. Their chemical blunderings have enabled so many adulterators of food stuffs to escape punishment, and even to use

their ignorant analyses for advertising purposes, as attesting the purity of the articles, that our readers would do well to bear these facts in mind.

### STEAMED MILK.

TOM F. STEVENS, of Leylands, Malta-road, Leyton, trading as the Dewsbury Farm Dairy Company, was summoned at Thames Police-court on June 5th, at the instance of the Poplar Board of Works, for selling milk adulterated to the extent of 13 per cent. It was stated that the milk was sold at the rate of 2½d. a quart, and at the time was said to be pure milk.—Defendant said that owing to the hot weather the milk had to be scalded. To do that steam had to be introduced into the milk, and in consequence a little water was let in.—The Magistrate was also informed that defendant had been convicted at Clerkenwell for a similar offence.—Mr. Dickinson imposed a fine of 40s. and 2s. costs.

### LUMP BUTTER.

At Liverpool Police-court on July 4th, William Spencer, grocer, of 130, Mill-street, was summoned for selling margarine for butter. According to the evidence given by Inspector Baker, it appeared that the defendant issued handbills stating that 25,000 fresh eggs were to be given away to celebrate the opening of the defendant's shop. The handbill further announced—"We will give to everyone who brings one of these bills, and purchases a pound of 5d., 6d., 8d., or 10d. creamery butter, a big fresh-laid egg." At the request of the inspector a woman went to defendant's shop and purchased a pound of the eightpenny butter, which on analysis was found to contain 9½ per cent. of water and 80 per cent. of fat.—The defendant stated that he did not sell the article as butter, and that although it was described as "lump" it was not represented to be lump butter.—Mr. Stewart said he did not see how anybody could be expected to purchase an article described as "lump" for anything but lump butter. He considered the case one of the most serious he had lately been called upon to deal with, and he must impose a penalty of £5 and costs.

### RIDICULOUS PENALTIES.

THE Essex County Analyst, Mr. Pooley, in his last report, referred to the ridiculous penalties inflicted by some of the magistrates, with the result that Alderman Howard, of the County Council, very angrily attacked the analyst's report and said that it was not becoming that he should set himself up as a *censor morum* of the magistrates. In a sarcastic manner he suggested that Mr. Pooley had better be sworn in as a justice himself. The Council, however, dismissed the alderman's objections and decided to call the attention of the justices to the shameful manner in which they have fostered adulteration. The following cases of these justices' justice furnish ample excuse for the complaint made. 3s., 5s., or 10s. penalties, with 8s., 10s., or 6s. 6d. costs, mean that every case taken into court by the County Council costs that body a great deal more than the fines and costs inflicted upon those practising the adulteration, and prove that, willingly or otherwise, the magistrates who inflict these penalties are absolutely encouraging adulteration. To suggest that such penalties would deter offenders from continuing the practice is an absurdity which no one ought to know better than the magistrates who inflict such ridiculous fines. We trust that some of the witnesses before the Select Committee now sitting will bring these facts before the Committee. The cases are:—

At the Stratford Petty Sessions, (Beacontree Division) on July 7th, before the Bench (Mr. E. Howard in the chair), Charles Powell, grocer, of Hoe-street North, Walthamstow, was summoned by Captain Kittoe, chief inspector of Weights and Measures for the Metropolitan Police District of the County of Essex, for having margarine exposed for sale in his shop on the 19th of June, 1894, without being labelled, contrary to the Margarine Act, 1889. M. F. Wilton (assistant inspector) deposed to entering defendant's shop on the 19th ult. and asking for ½ lb. of 1s. butter; defendant's wife served him, and before handing the butter to him, asked if she could get anything else for him; on the coin being tendered to the vendor and on the completion of the purchase, the latter, on hearing the purpose for which the butter was bought, replied it was not pure butter but a mixture. The butter was wrapped in a plain piece of paper not bearing any label designating it to be margarine. The butter was served from a parcel which was not labelled in printed capital letters "Margarine," but a label "Margarine" was hanging on a shelf in the rear of the counter some distance away from the parcel and higher up. Captain Kittoe corroborated. Mr. Howard said that the label ought to have been attached to the parcel, remarking that he (Mr. Howard) should bear in mind that the margarine was sold for butter, a very serious offence, and fined defendant 3s. and 8s. costs.

Minnie Saunders, grocer, of Palmerston-road, Walthamstow, who did not appear, was fined 5s. and costs, 8s., for a similar offence, committed on June 18th. In this case Mr. M. F. Kittoe prosecuted, as also in the case of J. T. Larter, grocer, of Dagenham, Essex, who was fined 10s. and costs for a similar offence committed on June 8th., 1894; also in the case of E. White, grocer, of Palmerston-road, Walthamstow, who was summoned for selling ½ lb. lard to the prejudice of the purchaser, which on analysis proved to be adulterated with 10 per cent. stearine and 16 per cent. water. Defendant stated that she had bought it for pure lard, believing it to be the same, and producing invoice stating it to be pure lard. Defendant was discharged on payment of costs, 6s. 6d.



### THE LOCAL GOVERNMENT BOARD AND SOMERSET HOUSE CERTIFICATES.

In his evidence before the Select Committee on Adulteration, Mr. Preston Thomas, representing the Local Government Board, made an admission of the greatest importance. We have all along contended that a Somerset House certificate is only an opinion and that magistrates are not bound to act upon it, but may, if they choose, treat it as beneath contempt. Apparently the Local Government Board share our opinion, for at the meeting of the Select Committee on Adulteration on July 3rd, Mr. Preston Thomas, in answering Mr. Herbert Gardner, who asked "if there was an appeal from local analysts to Somerset House," replied, "Not an appeal. The Acts constitute Somerset House a court of reference. The magistrates are not bound to act on their certificate." This answer raises a very important question. It is a matter of notoriety that magistrates have acted on the Somerset House certificates in cases where those certificates were ignorantly incorrect, and complaints of this have been made over and over again, yet all this time the Local Government Board and Mr. Preston Thomas have kept their view of the true powers of Somerset House carefully secret. Now that our contention is thus officially sanctioned it should not be lost sight of.

### FRAUDS IN THE BRANDY TRADE.

A CASE has just been decided at Kreuzburg, Germany, in which Messrs. Martell and Co. had instituted a criminal prosecution against a merchant of the name of Max Matzdorff, of Landsberg. It would appear that the defendant had induced a printer at Breslau to imitate the labels of Messrs. Martell, by making him believe that he, Matzdorff, had their permission to have these labels made. In this way he secured a large number of labels, and, it was proved, had affixed them to some thousands of bottles containing spurious brandy, and carrying imitations of Messrs. Martell and Co.'s branded capsules and corks. The case was fully established, and the defendant was sentenced to three months' imprisonment, and to pay the costs of the prosecution. The accused had agreed to ship two large consignments to this country; but none of the spurious article reached the public. The first consignment of 1,500 cases was detained by the Customs on arrival in England, and the second, of 500 cases, was seized, while in the hands of the carriers at Breslau, in consequence of the criminal prosecution instituted in the meanwhile. The parcel of 1,500 cases was sold by auction in London for the benefit of the Crown, after being stripped of all brands, labels, capsules, etc., and realised 3s. 1d. to 3s. 3d. per one dozen case, exclusive of duty.

### THE HANLEY STIPENDIARY SETS A WORTHY EXAMPLE.

THE sound common-sense and regard for the public welfare shown in the decisions of Mr. Wright, the Hanley stipendiary, have crushed out many mean adulteration frauds in that district. A few smart penalties like the following are necessary in more places than Hanley. At the Stipendiary Police-court, Hanley, June 25th, Mr. E. W. H. Knight, inspector of weights and measures, brought forward a case against William Wiggets, Charles Parsons, and Abraham Bailey, respectively general manager, district manager, and servant of the Sheffield Dairy Company, for selling adulterated milk on the 16th of May, 1894. Mr. H. S. D. Richardson appeared for the defence. A sample was obtained from the defendant Bailey in Navigation-road, Burslem, on the 16th May, by the inspector's man. Witness said he saw Wiggets the following day at the company's place in Marsh-street, and he refused to give the names of the members of the company. He had not the slightest doubt but that the milk would be right, and so destroyed the sample left him by the inspector's man. The county analyst's certificate showed that 33 per cent. of the cream had been removed from the milk. Mr. Richardson's defence was that the company received the milk from the vendors with a guarantee that the milk was pure. However, he could not produce the warranty. He also requested the Bench to bear in mind the fact that the company was a new one, and the profits up to the present had been less than nothing.—The Stipendiary said that he could not allow that to prejudice his mind. Evidently, however, this was not a small concern, but a large company having branch shops. A fine of £10 and costs (£11 4s. 6d.) would be inflicted.

### ESSEX COUNTY COUNCIL AND ADULTERATED BUTTER.

THE County Analyst mentioned that of the 171 samples examined by him 31 were adulterated, butter being responsible for no less than 22 of the number, milk six, coffee two, and ginger one. Most of these cases—25—came from the Metropolitan district. The butter offences consisted for the most part of non-labelling margarine. During the quarter, convictions numbered 23. A complaint was made that justices were too lenient, especially in the margarine cases.—Colonel Howard complained of the interference of the analyst. Perhaps the council would make him a magistrate, and have done with it.—Mr. Courtney Warner differed, as the practice of adulteration was simply ruining agriculture.—Mr. Brooks moved that the magistrates' attention be at once called to the leniency of the sentences.—This was seconded and carried by a majority of five.

### ADULTERATED VINEGAR.

AT the Steyning (Sussex) Petty Sessions, on July 1st, Sarah Dines was summoned for selling a certain article of food, to wit, malt vinegar, which was adulterated with 85 per cent. of diluted and coloured acetic acid, and was not of the nature, substance, and quality demanded by the purchaser, at Southwick, on May 22nd. Defendant pleaded not guilty.—Police-constable Legg said he visited the defendant's general shop at Southwick on the day in question and asked for a pint of malt vinegar. The defendant served him, and he paid 2d. for it. He then handed the vinegar to Sergeant Read, who came into the shop at the time. On being asked whether defendant had any questions to ask the constable, defendant said she had never been asked for malt vinegar before, and therefore she was not aware that proceedings could be taken. She was proceeding to make a statement, but was called to order, the magistrate's clerk (Mr. G. A. Flowers) stating that she would have an opportunity of stating what she liked later on.—Police-sergeant Read having deposed to receiving the sample of vinegar from the constable, said he explained to the defendant that the malt vinegar had been purchased for the purpose of being analysed by the public analyst. On being asked whether she would have the sample divided or not, defendant preferred it being divided, and the two samples he took with him he gave to his superintendent the same day. Defendant told witness, after he had explained to her the object of the purchase, that "I don't know whether it is malt vinegar; it is what I sell, the best London vinegar."—Mr. W. Powell Breach, J.P.: There is no such thing as malt vinegar as an article of commerce.—Witness: Yes, I think there is, sir. There was another sample purchased, and that was right.—Mr. W. Powell Breach: Pure malt vinegar?—Witness: Yes, sir.—Superintendent Byrne said he received the two samples from the last witness on the day in question. He at once forwarded them to the public analyst, and he had since received the certificate produced from Mr. Otto Hehner. The certificate was read, and declared the sample to contain 15 parts of malt vinegar and 85 parts of diluted and coloured acetic acid.—Defendant: All I have to say is that I sold the vinegar as I purchased it, and I bought it as pure vinegar, but I don't know whether it was pure malt vinegar or what it was. It was called the "best London vinegar." I bought it of Sarson's, City-road, London.—Mr. W. Powell Breach: Have you the invoice?—Defendant: I have it at home; I have not brought it here.—Superintendent Byrne: For the benefit of the defendant, I believe the woman was acting *bona fide*. I only saw it was labelled "best London vinegar."—The Chairman (Mr. Hugh Wyatt): Would you like the case adjourned so that you could produce your invoice? Was there a warranty?—Defendant: "Pure London vinegar."—Mr. W. Powell Breach: Did you have it in writing?—Defendant: No, sir; it was only just the bill.—Superintendent Byrne: It was stamped on the barrel.—The Chairman said the justices did not think the defendant had any fraudulent intentions, but considering there was such a large percentage of adulteration, the Bench could not overlook it, and warned her to be more careful in future. The fine imposed was 1s. and 13s. costs.

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### ADULTERATED TINCTURE OF RHUBARB.

At the Bingley Petty Sessions on July 4th, Frances Jowett, grocer, Cullingworth, was summoned at the instance of Mr. A. Randerson, local inspector under the Food and Drugs Act, for selling tincture of rhubarb to the prejudice of the purchaser.—The inspector stated that he purchased on, May 23rd, 3 oz. of tincture of rhubarb from the defendant, and forwarded a portion of it for analysis. The certificate showed that the sample was deficient to the extent of 30 per cent. in matters characteristic of tincture of rhubarb, prepared according to the direction of the British Pharmacopœia. It was also deficient in alcohol to the extent of 15 per cent., and in addition it was wholly devoid of saffron. Defendant said she sold it just as she received it from the wholesale dealer, and he believed her statement was correct. She had no warranty for it.—Superintendent Grayson said that unfortunately grocers were only just realising the necessities of getting warranties with the goods supplied by wholesale houses, so that in such cases as this proceedings could be taken against those who supplied the articles.—The Chairman observed that it would be well if retail dealers were fully advised of the necessity of having warranties.—Superintendent Grayson said that he and Mr. Randerson were doing all they could to bring this about.—The Bench ordered defendant to pay costs only, believing that she had no intention of cheating the public. The costs amounted to £1 8s. 1d.

### A BUTCHER SENT TO PRISON.

At the Middlesbrough Police-court on July 6th, a butcher named James Kay was charged with exposing meat for sale which was unfit for human consumption. When a summons was taken out against the defendant in April last he absconded, but had been caught at Annfield Plain. To console himself in his trouble the defendant had without doubt supped rather freely, so that when he was brought before the Bench he was very talkative, and failed to take an appreciative interest in the proceedings. He was, therefore, remanded in custody.

At a special court held on Saturday morning James Kay, butcher, was charged with being in possession of four pieces of meat on April 28th, which were unfit for human consumption.—Mr. Bainbridge, on behalf of the Corporation, said that on April 25th defendant and his partner Humphreys had the carcass of a slaughtered beast at the public slaughter-house. They were told to get rid of the meat by the slaughter-house keeper, or he would send for Mr. Anderson, the inspector, and they took it away for the purpose of destroying it, but on the 28th defendant was found with four pieces of meat in the public market which were totally unfit for human consumption. Defendant at that time said the meat was perfectly good, but Dr. Malcomson condemned it, and Mr. James Smith, J.P., signed an order for it to be destroyed. Humphreys had been convicted and sent to gaol.—Mr. Anderson, sanitary inspector, said the meat was in a basket covered with a wrapper under the stall occupied by the defendant in the butchers' market; he examined the meat, it was very dark in colour, soft and flabby, and gave off a sickly odour.—Dr. Malcomson also gave evidence, and said the meat was totally unfit for human food. He also said he heard defendant acknowledge that the meat was his.—Defendant contended that Humphreys bought the beast at Guisborough, and sold it himself. The meat found was not his.—Mr. J. T. Belk, magistrate's clerk, said defendant had been fined £10 and costs at Wolsingham, and £15 at Middlesbrough in November last for similar offences.—The Magistrates (Dr. Ellerton and Mr. James Smith) said they must make an example of defendant. He would have to undergo two months' imprisonment with hard labour and pay £6 costs or undergo a further term of one month's imprisonment. For being drunk in the police-court on the previous day he was ordered to pay costs or go to prison for an additional 7 days.

On Friday afternoon, the Middlesbrough Streets Committee refused to grant permission to this butcher who had been twice convicted of selling diseased meat to have a stall in the Middlesbrough Market.

### WHAT SOMERSET HOUSE CHEMISTS' INCAPACITY COSTS THE PUBLIC AND DAIRY FARMERS.

THE proceedings of the Parliamentary Committee now inquiring into adulteration are becoming very interesting. Wednesday saw Mr. Bannister in the chair and after hearing his evidence one feels a deep regret that he does not understand as much about foods and their analysis as he does of the art of giving evidence. His method of fencing with difficult questions and dextrously skating over the thin ice was beautifully illustrated in his answers to Mr. Herbert Gardner's questions. Mr. Herbert Gardner was anxious to elicit from Mr. Bannister what was the lowest percentage of foreign fat in butter that the Somerset House Authorities considered themselves capable of detecting. Mr. Bannister, in reply, treated Mr. Gardner to a dissertation, more or less unlearned, upon soluble and insoluble fatty acids, the tenour of which would go to prove that Somerset House chemistry as regards butter has not advanced since 1874. Mr. Bannister's rignarole, however, so obfuscated Mr. Gardner that the question was not pressed, whereupon Mr. Bannister, no doubt, metaphorically shook hands with himself as being a remarkably clever fellow. Later, Mr. Channing took him in hand, and the encounter was very amusing. Mr. Bannister again began the lengthy dissertation upon insoluble and soluble fatty acid, to which Mr. Channing listened with such

perfect politeness that it gladdened the heart of the witness, whose self-satisfied smile became almost large enough to cover the entire Committee-room. But Mr. Channing has apparently an advantage which Mr. Gardner did not possess; he understood what he was talking about and politely insisted upon having a straightforward answer to his question. It was difficult to obtain, but, driven into a corner, Mr. Bannister was compelled to blurt it out, and he admitted that the Somerset House chemists are incapable of detecting margarine in butter even to the extent of 16 per cent. Frankly speaking, we think they have over-estimated their capabilities, even at this, and that if they said they were incapable to detect an admixture of even 30 per cent. of margarine they would have stated nothing but the absolute fact.

We should like to see the Committee test these Somerset House analysts by causing various samples of pure butter to be mixed with margarine in percentages from 5 to 50, and asking for the satisfaction of the Committee that Somerset House should report upon the percentages present in each. The result, we think, would be as astonishing to the Committee as it would be disastrous to the pretensions of Somerset House to scientific competence, or to any accurate knowledge of food analysis. But this admission that Somerset House is incapable of detecting even 16 per cent. of margarine mixed with butter is at least something to go upon, and it invites a little consideration. In the week ending June 30th our imports of butter were 43,640 cwt., which at an all-round price would be worth 80s. per cwt. A good class margarine would cost at the outside 50s. per cwt. Every foreign butter factor is perfectly well aware of this analytical incompetence of Somerset House to detect percentages of margarine in butter even up to 25 or 30, and every foreign butter factor possessing this knowledge would consider himself a fool if he did not use it. The admixture of even 15 per cent. of margarine in butter means that upon our import for the week ending June 30th the public would be swindled of the tidy sum of about £10,000, which would make something like half a million of money per year lost to the people of the United Kingdom through chemical ignorance.

But there is another side to this question. This admixture of margarine enables foreign butter factors to undersell the English and Irish producers by 5s. or 10s. per cwt., thus practically driving our native produce out of our markets, unless our butter producers adopt the tactics of the foreigner and adulterate their butters to the same fraud-created standard. It is not difficult, therefore, to understand why Denmark, Brittany, Germany, Sweden, and other countries flood our markets with their produce, and why English and Irish dairy farming gives so little profit.

A capable Board of Reference for adulteration cases could, for the expenditure of a very few thousand pounds, apply some of our really able butter experts to the study of butter analysis, with the object of detecting methods by which the presence of even percentages as low as 5 per cent. of foreign fats could be discovered. These few thousand pounds would be a good investment in advancing science, and protecting the public from a fraud of at least a half-million of money per year. They would also rescue food analysis from the low state into which it has fallen by being at the mercy of the Somerset House gin and beer testers, whose knowledge of food analysis has only one point of similarity with Sam Weller's knowledge of London, namely, that it has the demerit of being very peculiar, without the merit of being extensive.

### SOMERSET HOUSE CHEMISTS' STANDARDS.

THE attitude of Somerset House towards the Food and Drugs Acts, retailers and the public analysts was curiously revealed in another answer given by Mr. Bannister. He did not consider it the duty of the Somerset House Department, he said, to tell analysts their standards. For example, the fact that the Somerset House standard for milk is 2.75 of fat and 8.5 of solids not fat, was made public for the first time before the Committee on Wednesday. Mr. Bannister said that the Department left this question of standards to be found out by test cases. We will leave for a moment the ridiculous red-tapeism shown in this answer, to consider its public bearings. What does this attitude of Somerset House mean? That the only method by which analysts, local authorities, or traders can discover what is pure or otherwise in the eyes of the Court of Reference in adulteration cases is by bringing test cases—that is, by making retailers scapegoats, dragging them into court for offences which, after all, may not in the opinion of this Court of Reference be offences under the Acts; compelling local authorities to expend money in prosecutions which bring odium and loss of business, and harass and inflict unbearable annoyances upon the persons prosecuted, for offences which, after great expense, when they come before the Somerset House Court of Reference, are held by these wonderful authorities to be no offences whatever. A more charming illustration of blithering idiocy in the work of a Government department could not be found outside Colney Hatch.

That this is no fancy picture, a case in point will prove. It is only a few months ago since Manchester provision merchants were summoned for selling butter alleged to contain excess water. Somerset House was quoted as sanctioning a percentage even above that of 19, and at enormous expense experts were brought from all parts of England and Ireland to testify to the percentage of water which butter should contain. The prosecution was abortive, as nobody knew what standard Somerset House adopted for the water in butter. On Wednesday, however, Mr. Bannister told the Select Committee that Somerset House had



informed the Irish Authorities that 16 per cent. was the highest amount of water allowed in butter. Why this declaration was not made to the Manchester Authorities passes our comprehension unless it were with held in order to ensure consistency in the tomfoolery shown by these incompetent food analysts.

#### THE EXCESS WATER IN BUTTER QUESTION.

AT the Ilkeston Petty Sessions, on July 5th, before Ald. F. Sudbury (mayor), Ald. W. Tatham, Mr. J. Bell, and Mr. G. W. Crompton, William Wood, grocer, Nottingham-road, Ilkeston, was charged with having, on June 1st last, sold half a pound of butter not of the quality demanded.—Mr. Searby (Hopkins and Searby, Ilkeston) prosecuted on behalf of the authorities; Mr. H. B. Clayton (Nottingham) represented defendant, who pleaded not guilty.—Mr. Searby said Captain Sandys, inspector under the Food and Drugs Act, went to defendant's shop and purchased half a pound of butter, for which he paid 6½d. He divided this into three parts as required, one of which he gave to the public analyst, one to defendant, and retained the third. This was found to contain 21 per cent. of water. The case was an important one, inasmuch as they could not get at the foreign manufacturer, who could give a guarantee to the English purchaser, which freed him, and the foreigner was beyond their jurisdiction. It was perfectly simple for dealers when cutting the butter to tell whether there was an excess of water in it. There were sub-sections which provided that articles might be mixed with others to render them saleable or palatable when the nature of the admixture was known, or it was lawful to use ingredients which were necessary to the proper making up of articles for sale. This excess of water was not within those sub-sections; for though in the abstract one might say butter could be made without any water being in it, yet it was found impracticable. But the excess of water was complained of.—The first witness called was Mr. Henry Stair Sandys, who deposed to the purchase of the milk.—Mr. John White, F.I.C., was called, and said he was public analyst for the county. He was a Fellow of the Institute of Chemists, and a member of the Society of Public Analysts. He received the sample from Captain Sandys. Pure butter should contain 81·7 to 85·4 per cent. of butter fat, whereas the sample contained only 70 per cent. The amount of water should never exceed 16 per cent. at the utmost. He had heard of the Manchester cases. His analysis was based upon his experience, and he considered if there was over 16 per cent. of water it would be an adulteration. He had analysed upwards of 1,000 samples of butter. The excess of water in samples was practically to recent a practice—two or three years at the outside—to be frequent.—Examined by Mr. Clayton, Mr. White said there was no fixed limit Act of Parliament—indeed, there was no limit fixed by the Act to any article except spirits.—Dr. Bell said good butter should never contain more than 12 per cent. of water. He knew that at Somerset House samples had been passed as pure butter which contained 19·24 per cent.—Mr. H. B. Clayton, for the defence, said he was pleased that the inspector did not give a bad character to defendant, who had been in Ilkeston 27 years. The suggestion of the prosecution was that the amount of water in the butter constituted the adulteration. It was an attempt to override the decision of the prosecutions in Manchester, which, after a lengthy hearing, had been dismissed. The percentage of water allowed was a matter of opinion. Mr. White admitted that, and although he might have had considerable experience, no doubt some of the experts examined at Manchester had had more experience than he. He had a certificate from Mr. Escourt, who was engaged in the Manchester cases. That certificate differed from Mr. White's.—Mr. Searby objected to this certificate. The defence should have brought Mr. Escourt.—Mr. Clayton, continuing, said it was a paltry objection, although Mr. Searby was perfectly within his legal right so to do. His client had taken advantage of the Act, and had the sample examined, and he thought there ought to be no objection to the analysis. He would ask, however, that the Bench retain the sample of the inspector, and send that to Somerset House for analysis, which was within their discretion, and reserve their decision until that was known.—Mr. Searby pointed out that there would be considerable difficulty in that case, as the sample was taken 34 days ago. He objected only to the certificate of Mr. Escourt because that gentleman was not present to answer any questions respecting it.—The Bench retired to consider their decision, and on their return the Chairman

said the Bench had carefully considered the case, and had come to the conclusion that they must convict. Foreign butter was made by large manufacturers, who, as a rule, had every appliance for making butter properly. Of course, if these were allowed to send butter into the market containing 5 to 10 per cent. more water than it should, others who tried to make pure butter could not compete with them. The Bench would impose a fine of £1, and £1 ls. costs.—Notice of appeal was given, and defendant was bound in £20, with two sureties of similar amounts.

#### DOCTORING WINES IN FRANCE.

NUMBERLESS evils, from the beginning to the end of the life history of a bottle of French wine, combine to ruin its character.

These evils begin with making. Even if the natural process be followed, and the wine made honestly by fermenting fresh grapes, there are various dangerous stages which make manipulations necessary. Suppose that the grapes have been, perforce, gathered before properly ripe. There is an excess of acid in the ferment which must be counteracted, and the sugar must be increased. There are delicate and approved methods for accomplishing this, but they are not always handled skilfully or conscientiously, and some of them give opportunity for a sort of official watering; that is, prescribe a formula which saves the wine and demands enough water to double the vintage.

If the wine escapes in making, it is subject to a multitude of maladies afterwards, which must be treated; and it happens sometimes, as in human medicine, that the remedy is worse than the disease. Litharge, for example, is added to counteract acidity, and is transformed into acetate of lead. Alum is frequently used in diseased wines to give them a certain youthfulness; salt and plaster are standard remedies. But an excess of any one of these substances, or their employment in connection with certain other substances, may result in compounds positively ruinous to the health.

With such manipulations it is only in abusing them, wilfully or ignorantly, that the harm lies. There are others not in themselves harmful, and the chief of them is watering. Thirty years ago this was done in a bold and gross way, simply by adding so much water. It was a fraud, but nobody's health was injured by it. To-day science has come to the aid of the defrauder. Wine weakened by water is strengthened by alcohols of inferior qualities, made from grains and beets, producing drunkenness much more quickly than the natural alcohol, and entailing more fatal results. To restore the colour lost in watering, various colouring matters, animal and vegetable, are used. The very bouquet is imitated.

But science does still more for the defrauder than this. All of these processes suppose a basis of grape juice. Science has found a way to make a wine without this supposed essential, and so perfectly that connoisseurs and chemists hesitate to pronounce it false.

By mixing alcohol, water, saline, and colouring matters, and a substance known as the oil of French wine, a composition is produced which many an expert will pass as a natural wine. There is one serious difficulty about this product, however. The oil which furnishes its savour and bouquet is, unhappily, a dangerous poison, a small quantity of which injected into the veins of a dog kills him in less than an hour.

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## ARSENIC IN GLYCERINE PROSECUTION.

## A LEEDS MERCHANT FINED.

At the Leeds Police-court, on July 6th, before the Deputy Stipendiary Magistrate, Mr. Vincent Thompson, John Trimble, trading as Messrs. Hobson & Trimble, grocers and drysalters, 147, Kirkstall Road, Leeds, was summoned at the instance of the Leeds Corporation for a breach of the Food and Drugs Act. Mr. Bairstowe (instructed by Mr. C. C. Jolliffe, deputy town clerk) prosecuted, and defendant was not represented by counsel. During Mr. Bairstowe's opening of the case the magistrate asked if the defendant was represented by counsel. Trimble replied, "No, sir, I stand alone, and should like to ask your Worship that all witnesses for the prosecution should be out of court." This request was complied with, and Trimble, adding that he would like the medical witnesses to leave the court, Dr. Cameron, the medical officer of health, and Mr. Scattergood, surgeon, who had been sitting in the well of the court, also retired. In his opening Mr. Bairstowe said that it had come to the knowledge of the authorities that glycerine was being extensively sold in Leeds which contained arsenic. For the purpose of testing the matter purchases were made from time to time. He did not know whether it would be necessary for him to make any statement with regard to what had transpired relating to this particular defendant, but as he had not instructed counsel he would confine himself to the particular charge. On the day in question, he continued, Charles Gill, the assistant of the inspector of food and drugs (Mr. Walker), went to the defendant's shop and asked for a bottle of glycerine from defendant's assistant. The latter asked, "Is it for inward or outward application?" and Gill replied, "I want it for a friend." He was then supplied with a pound bottle of glycerine, and Walker, entering the shop, informed him of the reason of the purchase in compliance with the conditions of the Act. The assistant refused to take advantage of the offer to take a portion of the glycerine for separate analysis. The glycerine was afterwards found to contain two grains of white arsenic per lb. Mr. Bairstowe went on to refer to the section of the Act under which the proceedings were taken, and in reply to the magistrate said that he did not suppose anybody would take a pound of glycerine. But he did say that arsenic in the smallest quantities was injurious to health. He did not say that to take two spoonfuls would necessarily do any harm, but if a purchaser took home a bottle and allowed his child to take it, great risk would be run of injury to health. If a grown-up person took the glycerine he would possibly have to take a considerable quantity before he was seriously injured. His argument was that if a person went into a shop and asked for glycerine he had a right to expect pure glycerine and nothing else, especially when it was labelled "pure glycerine," as was the case in this instance. Mr. Bairstowe, continuing, said that there was no doubt that in this case the article supplied was to the prejudice of the purchaser, and was not of the substance, nature, and quality demanded by him.—The Magistrate: Was there any intimation on the bottle that it was for outward application only?—Mr. Bairstowe, in reply, said that that was not the case, and that if the defendant had adopted that course there would be an end to these prosecutions against him.—William Gill, assistant to the food inspector of the city, spoke to purchasing the glycerine in question from an assistant at Mr. Trimble's shop on May 19th last. It was a pound bottle, and contained the label "warranted pure." He paid tenpence for the bottle. He was asked whether it was for outward or internal use, and witness replied, "It is for a friend." The bottle produced was then bought by the witness, who remained in the shop until the inspector came in.—Defendant here asked that his assistant should be sent for, and his request was at once complied with.—Walter Burgess Walker, inspector of foods and drugs for the city, said he received the bottle from the previous witness. He told the shop assistant that he was going to have the glycerine analysed, and offered to divide it into three parts so that the assistant might have a third of it. The assistant, however, said it did not matter, and witness took the whole of the glycerine away. Witness afterwards saw defendant, who protested against the number of samples that had been bought from himself and another chemist without any action being taken in the matter. He said the glycerine was not in any way adulterated, and observed that it was persecuting tradesmen to behave in the way the authorities had done. In the interval that had taken place numbers of

people might have been poisoned if the glycerine was adulterated as alleged.—Cross-examined: Witness had always been treated with the greatest courtesy on his visits to the defendant's shop, and had had no obstacles placed in his way. He had visited the defendant's shop three times. He had made purchases on each occasion.—The Deputy Stipendiary: Then if purchases were effected on these occasions, why were not proceedings taken in connection with them?—Witness: I acted on the instructions of my committee.—Mr. Bairstowe: The prosecution has a document here that will satisfactorily explain that. Witness, in the course of further cross-examination by defendant, said that on seeing the assistant Page the latter said "We only sell it for outward use."—Mr. Bairstowe, at the conclusion of Mr. Walker's evidence, produced a document in which the defendant had promised to withdraw the glycerine from sale. That was the reason proceedings had not been taken before. It was since that promise had been made that the bottle in question had been purchased.—The Defendant: There is one word omitted in that letter which alters the whole phase of it, that is the word "inward." What was meant was that the article had been withdrawn for "inward" use. Mr. Thomas Scattergood, surgeon, said that glycerine was an article of common use and a medicine. He believed it was used largely in combination with lemon-juice for sore throats.—Mr. Bairstowe: I suppose if it does no good it does no harm?—The Magistrate: Is it harmless with two grains of arsenic?—Mr. Bairstowe: That was the next question, sir.—Mr. Scattergood: I should say it would be very dangerous if taken indiscriminately internally. A teaspoonful would contain about a 50th part of a grain of arsenic, which would be the smallest dose of arsenic given medicinally.—Mr. Bairstowe: There is an element of danger?—Witness: Yes.—Mr. Bairstowe: If used in making up prescriptions would the danger be greater or less.—Witness: I should say it would be greater, because it would be administered regularly. Witness was cross-examined at some length by the defendant with the object of showing that the quantity of arsenic in a pound of glycerine was so small that in the ordinary course no harm would be done to the purchaser. Mr. Scattergood denied this, and said he would not like glycerine of this kind to be used in the making up of his prescriptions.—Dr. Cameron, medical officer of health for the city, was next called. There was, he said, no difficulty in obtaining pure glycerine, and there was no reason why arsenic should be in it. A teaspoonful of the glycerine in question, given to a child, would contain more than the minimum medicinal dose of arsenic and would, therefore, be injurious. Of such a danger the public certainly ought to be warned.—By Defendant: Two grains of arsenic were the recognised quantity calculated to be fatal.—Defendant, in the course of his further cross-examination of Dr. Cameron, said: What I want to show is that according even to the medical evidence the glycerine in question was beneficial.—Mr. Fairley, the city analyst, was called, and said it was not a proper thing for glycerine to contain arsenic, nor was it necessary for it to do so. In cross-examination by the defendant, witness said that if pure acid were used in extracting the glycerine from the soap grease there would be no arsenic in it. He was not aware that the further distillation of the glycerine would materially increase the cost. Out of 18 samples tested by him only seven were absolutely pure, and some of the others contained arsenic in small quantities not of material importance.—The Magistrate: And you consider two grains per pound a material adulteration? Witness: Certainly, sir. This concluded the case for the prosecution, and defendant then addressed the Court in a long rambling fashion. He said he was unable to call the assistant who supplied Walker with the glycerine, as he was at present engaged on his rounds. As a matter of fact, after other samples of glycerine had been bought by Inspector Walker he gave orders to the managers of his branch shops not to sell it except for outward application. As a matter of fact, he said, that was the condition on which the glycerine which was the basis of the present proceedings, was sold. Under these circumstances, he said, he contended that there was no evidence to show that it was sold to the prejudice of the purchaser.—The Magistrate said that, in his opinion, the case had been fully made out.—In reply to a question, the gaoler said that defendant was fined £1 and costs for selling peas adulterated with sulphate of copper in May, 1892.—The Magistrate pointed out that under the Act defendant might have been proceeded against for the present defence for a misdemeanour which case he would have been sent to prison. He would have to pay a fine of £3 and costs.

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## THE SELECT COMMITTEE ON ADULTERATION.

II.

*(Continued from page 216.)*

ASKED if he had anything to say concerning spirits, Mr. Thomas stated that 3,971 samples were analysed in 1893, and 782, or nearly 20 per cent., reported against for excess water. The practice of adding deleterious ingredients seemed to have ceased almost entirely.—The Chairman: Then in spirits you have a standard fixed?—Mr. Thomas: Yes, by Act of Parliament.—The Chairman: And that simplifies the work of the analysts?—Mr. Thomas: Yes. It was fixed because it was found impossible to say what was spirits and what spirits and water. All spirits have to be watered before they can be sold, and it was a question how much water there ought to be. But the establishment of a standard has not had the expected result of getting rid of the large number of samples reported against as adulterated.—The Chairman: The standard existing is not effective?—Mr. Thomas: Not in preventing the sale of spirits watered below that standard.—Touching upon coffee, Mr. Thomas said there had been some diminution in the percentage of samples reported against, it having dropped from 18 to 15 per cent. Chicory was the chief adulterant, and in some cases it had been found present in large proportions. One man who advertised a coffee specially prepared by the "French dissolving process" was fined because his process was found to consist of 90 per cent. chicory and 10 per cent. coffee. As chicory could be bought at about threepence per lb., to put three-quarters of a lb. of it with a quarter of a lb. of coffee and sell it for a shilling was a very profitable transaction. There used to be an old practice of pressing chicory into the shape of coffee beans. In one instance an inspector took samples of some coffee ground in his presence and found it largely adulterated with chicory which had been added by this means.—The Chairman: Now, as to lard. I believe that is largely adulterated with cotton-seed oil?—Mr. Thomas: Yes, and also with beef stearine, which stiffens the fat and enables manufacturers to use an inferior kind.—Mr. Frye: But the stearine would not be injurious to health?—Mr. Thomas: I believe not. There were 1,600 samples of lard taken last year, and 10 per cent. were reported against.—The Chairman: Can you give us any information respecting pepper?—Mr. Thomas: Pepper seems no longer to be adulterated to any extent. There were a good many prosecutions some time time ago when it was a very common practice to grind up the husks.—The Chairman: Do you attribute the non-adulteration to the fact that active steps were taken under the Acts a few years ago?—Mr. Thomas: It may be largely due to that.—Mr. Kearley called attention to the fact that the Committee was drifting away from dairy produce, but the Chairman ruled that they must take evidence on the operation of the Acts generally. Speaking of the adulteration of other articles, Mr. Thomas said, last year the number of samples of vinegar analysed rose to 1,015 in place of 186 in the previous year; 10 per cent. were reported against, mostly on account of being produced from substances other than malt. Some of the cases seemed rather to raise a doubt as to whether the making of vinegar in many of the common ways—such as from the vinegar plant, from sugar, and so on—must be prevented. The question arose whether vinegar was always to be brewed from malt. As to bread and flour there was practically not much adulteration. About 1,000 samples were analysed and only five reported against. In mustard the proportion of adulteration was not very serious, and almost invariably consisted in a small amount of wheat flour, perhaps a little turmeric for colouring purposes.—The Chairman: And is the adulteration of beer carried on?—Mr. Thomas: The remarkable thing is that although constantly hearing about chemicals and so on used in beer, so far as the official returns show the only adulterant that is reported is salt. It is scarcely ever anything else, but as beer under the existing law may consist of any substitutes for malt, brewed with any substitutes for hops, it is difficult for analysts to report against it.—The Chairman: Have you anything to say concerning confectionery and jam?—Mr. Thomas: These are almost invariably reported as pure. No doubt, until the Acts were passed, a lot of poisonous pigments were introduced which did a great deal of harm, but now we never hear of it.—Mr. Frye: Everything is so cheap, it would not be worth while.—The Chairman asked about the adulteration of tea.—Mr. Thomas: Tea is not so very much adulterated recently. Out of nearly 1,600 samples examined during the past 4 years not one has been reported against.—Mr. Frye: But there were a great many cases before tea was allowed to be examined in bond, but since then there have been none.—Mr. Thomas: I was about to say that.—The Chairman: Regarding drugs; does the proportion reported upon continue to be large?—Mr. Thomas: Yes, it is large, but many cases occur in which it is nobody's fault, but is caused by evaporation and so on: prosecutions instituted in these cases have frequently failed. Altogether I think we may count that in only one-sixth of the cases reported against are fines imposed, showing that adulteration of drugs is not nearly so common as it may have been in times past.—The Chairman: From time to time the Board have issued suggestions for remedying the state of things you describe? Could you state such suggestions as have come under your notice?—Mr. Thomas: Yes. One is that the wholesale vendor should be brought within the reach of the Acts. Practically it is now very difficult to get at him. It is thought that there should be incorporated with the Acts a provision by which the retail vendor should be entitled to join the wholesale vendor as a co-defendant. Another suggestion

is that section 25 of the Act of 1875 should be amended by incorporating with it a provision like section 47, sub-section 3 of the Public Health (London) Act, 1891. This provision relates to the sale of unsound meat and it is proposed that it should be made general. It is as follows:—"Where it is shown that any article liable to be seized under this section and found in the possession of any person for the food of man, and when so purchased was in such a condition as to be liable to be seized and condemned under this section, the person who so sold the same shall be liable to the fine and imprisonment above mentioned unless he proves that at the time he sold the said article he did not know and had no reason to suppose that it was in such a condition."—The Chairman: Have any suggestions been made to you as to invoices being regarded as warranties?—Mr. Thomas: Yes; more especially that invoices from foreign firms which cannot be got at should not protect vendors. Complaints have been received from the Sanitary Authorities complaining that the fines do not go to them but to the County Funds. They consider it hard that while they take the proceedings the money should go to somebody else who has had nothing to do with it. Mr. Frye: Is that so in London?—Mr. Thomas: London has a special provision. The money goes, I believe, to the Receiver of the Metropolitan Police District.—The Chairman: Then, of course, you have had suggestions as to a standard for milk.—Mr. Thomas: Yes.—The Chairman: Anything about the labelling of milk?—Mr. Thomas: Yes; that vendors should be compelled to label churns containing skimmed or mixed milk, and that the name of a responsible person should be painted on any vehicle from which milk is sold. It is suggested also that vendors should be registered.—The Chairman: Then, while you want to give the local authorities these advantages in dealing with adulteration, the suggestion has been made that the vendor should receive additional protection at the same time by the fixing of a standard of milk analysis?—Mr. Thomas: That is so. One of the most useful provisions of the Act of 1875 was that enabling inspectors to take samples at railway stations, but it was decided that the various formalities of taking a sample in the ordinary way did not apply to railway stations. This has been complained of as being unfair, on the ground that the vendor has no second sample and, should the public analyst make a mistake, has no chance of getting a revised analysis.—Continuing, Mr. Thomas said it was desired that manufacturers of condensed milk should be compelled to state the fact prominently if it was skim milk.—Mr. Kearley remarked that the present law required that, but Mr. Thomas pointed out that it was a question of prominence and size of letters.—The Chairman: Another suggestion I heard of was that margarine should be coloured differently.—Mr. Thomas: Yes, and also should be sold in a special shaped block. Another proposal is that coffee mixture should specify the proportions of coffee and chicory. It is also suggested that the coffee mixed with chicory should be called chicory, on the principle of butter mixed with margarine being called margarine. It has been proposed that the power of taking of samples in transit should be extended to all articles; that samples should be taken from wholesale people; and that the percentage of salt in beer should be stated and the other ingredients specified.—The witness, in reply to an inquiry, said it was a fact that complaint had been made against the submission of samples to Somerset House being left to the discretion of magistrate, it being contended that either party to a prosecution should have power to do so.—Answering Sir Mark Stewart, the witness said there was a general feeling that the whole question of the Acts was a very large one. Since 1875 there had naturally cropped up a number of difficulties from the mere fact that so many legal decisions had been given.—Mr. Channing: Can you speak of the amount of margarine which is made in this country, and the amount imported from abroad?—Mr. Thomas: I have no particulars. I believe there is very little manufactured in this country.—Mr. Channing: Have you any particulars of the amount of margarine imported from abroad?—Mr. Thomas: The Customs would have that information. It is impossible to get at the amount made in England.—Mr. Channing: Is it within your knowledge that there are 21 manufacturers of margarine registered in this country?—Mr. Thomas: I did not know that.—Mr. Channing: But you know there has been a great increase in the amount made?—Mr. Thomas: Yes.—Mr. Channing: And there has been an increase in the amount of adulteration of butter with margarine?—Mr. Thomas: The figures do not show that there has been an increase, but it is about the same as it was in 1877. It went up a bit after the first five years and has gone down a bit since then.—Mr. Channing: But there have been many complaints from agriculturists?—Mr. Thomas: Yes.—Mr. Channing: Is it a fact that 27 authorities have now put the Margarine Act into force?—Mr. Thomas: That is so.—Mr. Channing: Is it a fact that, in its 20th and 21st reports, the Board expressed its sense of the inadequacy of the fines inflicted in adulteration cases?—Mr. Thomas: The Board have frequently done so, and the difficulty is to get the magistrates to raise them.—Mr. Channing: The value of milk for infants' food is largely due to the presence of fat?—Mr. Thomas: Yes.—Mr. Channing: And the standard fixed by the Chemical Society is about 2·50?—Mr. Thomas: I could not say.—Mr. Channing: But does separated milk contain only about one-sixth of the ordinary amount of fat?—Mr. Thomas: I could not answer the question definitely, but I know separated milk is of no value.—Mr. Channing: Has the Local Government Board expressed any opinion on the milk standard and the testing?—Mr. Thomas: No.—Mr. Channing: Do you know that in Paris and Berlin the



standard is much higher.—Mr. Thomas: I am not able to say so, but I had it in my mind to recommend the Committee to inquire what is done in Paris in connection with these two subjects.—Mr. Channing: Have the Local Government Board expressed any opinion as to having the inspectors under a central authority?—Mr. Thomas: No.—Mr. Kilbride asked if the Committee were to understand from the early part of Mr. Thomas's evidence that inspectors under the Local Government Board were not subjected to a competitive examination.—The Chairman explained that there were no inspectors under the Local Government Board. The witness in his evidence had spoken of analysts, and had explained that they were required to show that they were men of ability and standing in their profession.—Mr. Colston: The increased proportion of milk adulteration in hot weather—is it due to the addition of water, or to the cow drinking more water?—Mr. Thomas: I should think it would be more added water.—Replying to Mr. Colman, the witness said the Board did not require candidates for appointments as public analysts to undergo a specific examination.—Mr. Colman mentioned that the Select Committee of 1874 suggested that the Board should require some practical examination.—Mr. Herbert Gardner: Have the Local Government Board any power to veto appointments, and who advises them?—Mr. Thomas: The Board have a veto, and are advised by the chemical staff.—Mr. Kearley: Has there ever been an appointment vetoed?—Mr. Thomas: Oh, yes.—Mr. Frye: Can you give us an instance of one case?—Mr. Thomas: I think it would be invidious to do so, but the power has been exercised on many occasions. I have come across four or five instances in the slight search I have made.—Mr. Gardner: These gentlemen have to prove that they are persons in their profession qualified to fulfil their duties?—Mr. Thomas: Yes.—Mr. Colman asked why 1,600 cases of milk reported against were not prosecuted?—Mr. Thomas said a great many of them would be border cases, where the percentage of adulteration was so small as not to warrant proceedings. A desire not to be hard on persons unable to bear a prosecution—such as a poor old woman—might also account for some, while there might also be reasons of which the Local Government Board had no official cognisance, but which would render proceedings inadvisable.—Mr. Frye asked if the Margarine Act did any good, and the witness replied that it brought down the proportion of adulteration.—Mr. Frye asked if the witness was acquainted with the fact that from 1888 to 1893 the imports of margarine remained stationary, while butter had increased some 700,000 cwt.—Mr. Kearley asked if the witness had any data on which he founded the statement made in the course of his evidence, that analysts had lowered their standard for milk.—Mr. Thomas could not give the desired information at once and—Mr. Kearley asked him to be prepared to give an answer on another occasion.—Mr. Herbert Gardner: There is an appeal from local analysts to Somerset House, is there not?—Mr. Thomas: Not an appeal. The Acts only constitute Somerset House a court of reference. The magistrate are not bound to act on their certificate.

(At this stage the Committee adjourned.)

The inquiry was resumed on Friday, July 6th, when, in the absence of Sir Walter Foster, the chair was occupied by Mr. Herbert Gardner. Mr. Preston Thomas was again under examination throughout the whole of the afternoon, and was taken by various members over the evidence given by him at the previous sitting. As, to a considerable extent, the facts given and statements made were more or less a repetition of what was said on the first day, we have allowed extreme pressure on our space generally this week to influence our report in the direction of curtailment, but from this point we shall present to our readers a full note of the proceedings.—Mr. Gardner, among other questions, asked Mr. Thomas's opinion of a suggestion that the power of authorities to take samples of milk at railway stations should apply only to the station of despatch.—Mr. Thomas thought the effect would be to limit the power which the clause intended to give. He believed the basis of the suggestion was that milk might be tampered with *en route*. That was very unlikely in view of the difficulty of stealing the milk, which would, as a rule, be the only reason for the addition of water. It had been suggested that in cases of accidental spilling, water might be added to make up the quantity, but he did not think cases of that were sufficiently numerous to call for consideration. They might look upon alteration *en route* as so very unlikely that it would be scarcely desirable to make a change in the present arrangements on that account. Then, again, the authorities concerned with the adulteration would not be those at the point of despatch. They would not care whether it was adulterated or not, so far as their own population was concerned, and therefore to leave the taking of samples to them, would be to leave it to people with no interest in the matter who probably would not exercise their powers.—Mr. Gardner: But if it were put in the hands of the Local Government Board?—Mr. Thomas did not think that would bring about any advantage.—Mr. Gardner: Do you know anything of the construction of the milk churns that have recently been sent out?—Mr. Thomas: No, only as an ordinary railway traveller.—Mr. Gardner: In taking these samples at railway stations, no notice is given to the consignor?—Mr. Thomas: No, I omitted to point out in my evidence on Tuesday that it is only fair he should have notice.—Mr. Gardner: You think it possible and fair that the consignor should be put in the same position as people from whom samples are purchased in the ordinary way?—Mr. Thomas: I would not go so far as that, because there are certain formalities about purchasing samples from shops.—Mr. Gardner: But you think notice might be given?

—Mr. Thomas: Yes, and I think the inspector should keep by him a portion of the sample he takes.—Replying to a member who asked whether he attributed the unwillingness of private persons to put the Acts in force to the cost of so doing, Mr. Thomas gave it as his impression that natural reluctance had more to do with the fewness of prosecutions by private individuals. In some districts, instead of the statutory 10s. 6d. which might be charged for analysing samples submitted by members of the public, the authorities had agreed with their analysts for a reduced rate, in some cases as low as 2s. 6d. Replying to Mr. Yerburgh, Mr. Thomas stated that wherever the Acts were enforced they were found to have a very considerable effect on the sale of adulterated articles. The Local Government Board had no power to compel local authorities to put the Acts into force, nor could they appoint inspectors of their own to take samples. He could not account for the laxity shown by some authorities in regard to the Acts, and was very much surprised to find that in grazing counties, and districts where the interests of dairy farmers were important, that laxity was frequently considerable. Last year, for example, there were only 26 samples taken within the jurisdiction of the County Council of Norfolk.—Mr. Kearley: I understand that a public analyst is required to possess medical, chemical, and microscopical knowledge.

*To be continued.*

## REVIEWS.

"THE SALE OF FOOD AND DRUGS ACTS, 1875 and 1879," with Notes of Reported Cases. By T. C. H. Hedderwick, M.A., Barrister-at-Law. (Eyre and Spottiswoode, publishers, East Harding-street, E.C.) 5s.

An up-to-date work on the Food and Drugs Acts has long been greatly needed, and this compilation by Mr. Hedderwick therefore meets a real want, and should be bought by everyone concerned with the working of the Food and Drugs Acts. It furnishes in a handy form copies of the Acts, and gives under each clause the various decisions of the High Courts that interpret the same. This gathering of decided cases, and showing their application to each section of the Acts, must be invaluable to solicitors, inspectors, and all concerned with the enforcement of the Acts. Considering the intricate nature of the subject, Mr. Hedderwick's work is singularly free from errors, and we can strongly recommend our readers to purchase it. The reported cases are brought down to the most recent date, and include *Elder and Smithson Lard Warranty*, *Laidlaw, v. Willson Warranty*, and even the absurd decision of Mr. Justice Hawkins *re* baking powder. The work is admirably cross-indexed.

## CORRESPONDENCE.

*To the Editor of FOOD AND SANITATION.*

DEAR SIR,—As a regular reader of your valuable paper, *FOOD AND SANITATION*, I noticed in last week's issue that you state there is to be a Government inquiry into the Food Adulteration Acts. I beg to call your attention to the increase in the fraudulent sale of margarine by the giving of over-weight, *i.e.*, about 24 ounces to the pound, by Welsh dairymen, for which they charge 1s. and 1s. 2d. for a pound and a half of ordinary 6d. margarine, and as they do not label it as such, in any case, poor people think they are getting butter. We have one in this street which is playing havoc with other small shop-keepers who have to label it, while this shop is allowed to sell it without labelling it by the officials of the Shoreditch vestry. Having just purchased a  $\frac{1}{2}$  lb. of 1s. I have got seven ounces of cheap margarine for 3d. not labelled. I ask you, sir, is this fair trading?—Yours, etc.,

J. COOK.

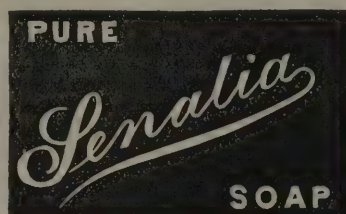
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## Food and Sanitation.

SATURDAY, JULY 21ST, 1894.

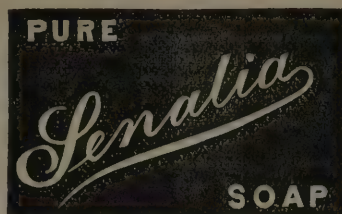
### THE LAW AND THE PUBLIC WEAL.

THERE is a great deal of wisdom in the old saw, that he who would take soup with the devil had best have a long spoon, and this, we suppose, is the reason why so little is said in the public press respecting some of the decisions, prejudicial to the public health and harassing to honest men, that are given from time to time in the High Courts. We pointed out that the effect of the decision of Justices Hawkins and Lawrence, who held that baking powder was not an article of food, placed the retailer in the position that he could not be punished for selling baking powder containing alum, as it was not an article of food, but that if he used such baking powder for bread he could be punished for selling that bread containing alum—which is about as absurd a position as it would be possible to place a trader in. Our warnings to bakers and confectioners upon this point are thus justified by a prosecution at Wolverhampton for alum in fancy bread, which we report in another column. In this instance the confectioner used the Excelsior egg powder, without any knowledge that that powder might contain alum, and, in point of fact, independent analysis showed that the powder in question contained 37·4 of alum, and the sample of bread in connection with which this powder was used contained alum to the extent of 210 grains per 4lb. loaf. In consequence of the decision of Justices Hawkins and Lawrence, we here have the law punishing a poor woman, who uses the powder unwittingly, for adulteration, but it shields the manufacturer of the egg powder in question from any possibility of punishment.

We are perfectly well aware that newspapers that may in the public interest honestly and fearlessly direct attention to absurdities of this character do so at great risk; but, while showing to the judges all the respect they may deserve, we have a higher duty to perform, and that is the one of safeguarding the public from frauds in food stuffs, and of purifying trade from the dishonesty and chicanery now so prevalent. We did not set out upon our career of fighting fraud without calculating that our efforts would meet with scant encouragement from the Courts; but against the impertinences we have met with in some directions we can set public services we have performed during the past two years, which have caused an increase of something like 6,000 samples to be taken for analysis, and a commensurate "scotching" of adulteration and suppression of fraud. When our critics or censors can point to anything so honourable or publicly beneficial we may consider their impertinences worthy of taking to heart. As it is, we prefer the approval of our own consciences and the knowledge that we are doing a useful public work,

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and that work we shall do so long as we are able, and care little whether it pleases the Courts or otherwise. That the law is powerful to shield the rogue the public well know, but our experience of it, so far as regards the suppression of adulteration, is that it has invariably been made to serve the purpose of the rascal who has the longest purse.

### THINGS IN GENERAL.

#### INCORPORATED BRITISH SOCIETY OF INSPECTORS OF WEIGHTS AND MEASURES.

THE amalgamation of the two associations of Inspectors of Weights and Measures made the gathering at the County Hall, Spring Gardens, during the past week, much larger than any yet held of officials connected with the Weights and Measures, and Food and Drugs Acts. Resolutions were adopted in favour of the metric system of weights and measures, of taking steps to place the views of the Association before the Committee on Adulteration now sitting in the House of Commons, and against the practice carried on in some districts of making a rebate from the fees named in the first schedule of the Weights and Measures Act of 1889 for the verification and stamping of weights, measures, and weighing instruments. In the discussion upon the Adulteration Acts, Mr. M. Henry, Editor of FOOD AND SANITATION, addressed the meeting in support of the motion of Mr. F. Cliffe, Surrey County Inspector, and in a vigorous manner dissected the evidence given by the Somerset House representative before the Adulteration Committee on the previous Wednesday.

The Annual Dinner took place at the Holborn Restaurant on Friday evening, Sir John Hutton, chairman of the London County Council, presiding. There were present the Right Hon. Lord Addington, Sir Saul Samuel, F. C. Frye, Esq., M.P., Major Finlay, Thomas Kyle, Esq. (chairman of the Society), J. W. Wilson, Esq. (Past President of the Society of Engineers), W. W. Dickinson, Esq. (Deputy Chairman of the London County Council), M. Henry, Esq. (Editor of FOOD AND SANITATION), and Messrs. B. Scott-Elder (Durham C.C.), W. Crabtree (Nottingham C.C.), E. Holmes (Leicestershire), Moore (Brighton), C. J. Martin (Guildford), and G. F. Allwood (Wolverhampton), amongst other prominent members of the Association. The dinner, speeches, and musical entertainment were all heartily appreciated by the large and representative gathering.

#### WHAT IS A PERISHABLE ARTICLE?

AT Tamworth County sessions, on July 10th, Thomas Henry Tromans, shopkeeper, Glascote Heath, was summoned by George Henry Salmon, inspector for Warwickshire under the Food and Drugs Act, for selling as butter an article which contained 95 per cent. of foreign fat, on May 23rd. [Mr. Mears (Burton) appeared for defendant, and objected to the summons on the ground that as butter was a perishable article the summons ought to have been served within twenty-eight days of the commission of the alleged offence. The magistrates over-ruled the objection, and, after hearing evidence, fined defendant £1 and costs, it being his first offence.—At the instance also of Mr. Salmon, Samuel Baxter, landlord of the Railway Inn, Glascote Heath, was summoned for selling, on May 23rd, a quantity of whiskey which contained 64 per cent. of proof spirits and 36 per cent. of water, contrary to the statute. Defendant pleaded guilty, Mr. E. Argyle, who represented him, submitting that, through inadvertence, defendant's wife, in the absence of her husband, when preparing spirits for sale put a quart too little into the barrel. A fine of 10s. and costs was imposed.]



**MR. A. H. ALLEN ON VINEGAR.**

MR. A. H. ALLEN, analyst for Sheffield, refers, in his report for the quarter ending June, to the recent vinegar prosecutions. After stating the facts, he says:—"By 'malt vinegar' is to be understood a vinegar prepared by the alcoholic and acetous fermentation of malted and unmalted grain. Acetic acid is the characteristic constituent of vinegar, just as alcohol is of wine, beer, and spirits; but the substitution of acetic acid or vinegar from some other source than grain for malt vinegar is similar to passing off an imitation wine, concocted from silent spirit and artificial essences and colouring matters, for the genuine fermented juice of the grape."

**MICRO-ORGANISMS IN WATER.**

SANITARIANS owe a deep debt of gratitude to Mrs. and Mr. Percy Frankland for the admirable work written by them upon "Micro-organisms in Water," which is published by Messrs. Longmans and Company, price 16s. It is the most exhaustive and useful work that has ever been written on this important subject. The whole question of water analysis is thoroughly considered, and the methods of bacteriological study, including sterilisation, the microscopic examination, staining of micro-organisms, and culture media, are admirably explained, and there is practically no work of importance done in recent years upon water analysis that is not given its due prominence. One of the most excellent chapters we have seen is that upon the processes of purification of water for drinking purposes. The illustrations are excellently done, and the work is one that is indispensable to medical officers of health, public analysts, and surveyors.

**DISGUSTING SAUSAGE REVELATIONS.**

AT the Lambeth Police-court, on July 12th, James Burt, a pork-butcher, of 152, Wyndham-road, Camberwell, was summoned by Mr. Julius Jones, one of the sanitary inspectors in the service of the Lambeth Vestry, for exposing for sale a quantity of pieces of meat which were unsound and unfit for food.—There was a second summons against the defendant for having on his premises for the purpose of preparation for sale a quantity of meat which was unsound.—The inspector stated that on the 7th instant he visited the defendant's premises, and on the counter in the shop found 10lb. of meat which was stinking. On the same afternoon he again went to the defendant's premises, and upon going into the sausage house found a quantity of meat, a quantity of sausages on the bench, and some sausage meat—in all about two cwt. The whole was stinking and quite unfit for food.—Mr. Biron: Is this the case in which you found some colouring matter used in the manufacture of sausages?—Witness: Yes, sir, some red powder.—Mr. Biron fined the defendant £5 on the first summons, or one month's imprisonment, and £20, or three months, on the second summons.—George Hill, a pork butcher, of 7, St. Mark's-road, Kennington, was convicted on two summonses for having on his premises, for the purpose of preparation for sale, meat which was unsound and unfit for food.—Mr. Biron ordered the defendant to pay fines amounting to £15.—George Bauerlein, a pork-butcher, of 100, Lambeth-walk, was convicted for a similar offence, and also for having on his premises eight loaves and nine pieces of bread which were unsound.—Mr. Biron fined the defendant £5 on the first summons, and 40s. on the second.

At the same court Henry W. Haile, of 211, Wandsworth-road, was summoned by Mr. Julius Jones, one of the sanitary inspectors in the employ of the Lambeth Vestry, for exposing for sale a quantity of eggs which were unsound. The inspector stated that on the 31st ult. he found eggs being sold at the defendant's premises at the rate of 36 for a shilling. He purchased nine for threepence, and upon examining them found five to be bad. He returned to the shop and seized 71 eggs. He opened each one separately, and found 62 bad.—Mr. Moore, solicitor, who defended, said the defendant purchased a quantity of Austrian eggs, and was under the impression that they were good and sound.—Mr. Biron fined the defendant 40s. and 2s. costs.

**DOVER AND THE ACTS.**

THE recent determination of the Authorities in Dover to enforce the Acts has resulted in several milks being taken for analysis, one of which contained 13 per cent. of added water. The Town Clerk at the last meeting of the Town Council asked for instructions to prosecute in this case. The Council decided that they should administer a severe caution to the offender, with an intimation that in any further case prosecution will follow.

**ADULTERATION IN LAMBETH.**

JOHN JONES, of Dawlish-street, was summoned by Mr. H. Treherne Wiggs, on behalf of the Lambeth Vestry, for having sold milk containing added water to the extent of 18 per cent.—Mr. Biron fined the defendant 40s. and costs.—Edward Rayment, of Abbey-street, Bermondsey, was also summoned for selling milk containing added water to the extent of 17 per cent., and was fined £5 and costs.—John Haynes, of Penrose-street, Walworth, was summoned by Mr. A. Long, on behalf of the Newington Vestry, for selling coffee containing 45 per cent. of chicory, and was fined 10s. and 12s. 6d. costs.—Evan Edwards, of East-street, Walworth, was fined 40s. and 12s. 6d. costs for selling butter not of the quality demanded, inasmuch as it contained 82 per cent. of margarine; and Abraham Davies, of East-street, was fined 10s. and 12s. 6d. costs for a similar offence, the percentage of margarine being 70.—William Copps, of Mina-road, was fined 20s. and 21s. 6d. costs for selling milk containing 8 per cent. of added water.

**STANDARD OF FAT IN MILK.**

THE report of Dr. S. W. Abbott to the Massachusetts State Board of Health states that 53 per cent. of the samples analysed during the month of May last were found to contain between 12 and 13 per cent. of total solids.

**SOMERSET HOUSE PSEUDO-SCIENCE AND THE ADULTERATION COMMISSION.**

SOME interesting disclosures were made at the committee on Food Products Adulteration on Wednesday last. Mr. Bannister, the deputy-principal of the Inland Revenue Laboratory, who rejoices in being the possessor of the valuable degree of F.C.S., which anyone can obtain by a payment of two guineas, and is the chairman of the retail trader's enemy—the Civil Service Stores—gave a further exhibition of his fearful and wonderful knowledge of analysis. Any more exposures of the department's incapacity, we feel, must be regarded by our readers as akin to the flogging of a dead horse, and we would out of pity spare the incompetent Government chemists were it not that a stern public duty requires a contradiction of his misleading statements, as otherwise they might be regarded as worthy of credence. To begin with his assertions regarding Irish butter—he now seeks to pose as the friend and mentor of the Irish butter trade and warns them that they will ruin their trade if they persist in charging their butters with excessive quantities of water. This is even more than cool impudence in face of the fact that it is only on account of Somerset House passing for years as genuine butters containing percentages of water which public analysts declared to be adulterated, that this excess water fraud grew; and that the ignorant Government chemists absolutely included amongst genuine butters samples that had considerably over 20 per cent. of water. We warned the Irish butter-makers over a year ago again and again of the ruin towards which Somerset House folly was hurrying them. Now that such terrible damage has been visited upon the Irish butter trade by the revelations in the Manchester prosecutions, it is the height of impudence for Mr. Bannister, who may be said, with Dr. Bell, to be the cause of the disastrous blow to Irish butter, to come forward and pose as the friend and protector of the trade. To bludgeon your victim and then claim to be his saviour is exactly what Mr. Bannister is now doing. Mr. Bannister stated in evidence that for fresh butter a proper limit for water would be 14 per cent., and for salt butter 16 or a trifle over. There is a Bannisterian vagueness about this "trifle" which is typical of the shuffling nature of his entire evidence. For example, when a sample was referred to them in which they found nearly 23 per cent., they certified it as containing not less than 5 per cent. excess water, which clearly proves that they have one set of statements ready with which to hocus the Parliamentary Committee, whilst they act upon an entirely different set when it is intended to mislead magistrates, and to damage public analysts; because their statement that there was 5 per cent. excess water in this instance clearly proves that their standard was 18 per cent. and not 16. The Committee should ask Mr. Bannister how he came to make such a statement to them, and at the same time he ought to be asked if he can give the Committee any case where he or his colleagues have condemned any fresh butter with less than 16 per cent. of water. This would be valuable, as he gives 14 per cent. as the limit.

**SOMERSET HOUSE AND THE MILK STANDARD.**

WE should have thought the first duty of the persons who call themselves Somerset House analysts would have been to possess themselves of some elemental knowledge of the general views of the Society of Public Analysts respecting the composition of milk and other articles of food; but, like the Bourbons, they learn nothing, preferring to wrap themselves in a mantle of ignorance, which, of course, naturally causes them to make gross misstatements. For instance, Mr. Bannister stated what he should have known was absolutely untrue—that the public analyst's limit for milk adopted in 1874 was that of Wanklyn. The real truth is that Wanklyn's figures were 9.3 of solids not fat, and 3.2 of fat, whilst the public analyst's limit was 9 per cent. of solids not fat, and 2.5 per cent. of fat. Some years later, when Dr. Adams, of Maidstone, devised a more perfect method of fat extraction, the Society of Public Analysts formally and openly, after full discussion, readjusted these limits and adopted 8.5 for solids not fat, and 3 per cent. of fat respectively, the sum total being as formerly, 11.5. These standards are known to every analyst in the world—excepting, apparently, the Somerset House pseudo-ones—they have been published times over in scientific journals in all countries, yet Mr. Bannister actually, at this time of day, exhibits an ignorance which would be lamentable in the youngest laboratory student, and which, in a gentleman holding the appointment by law of a referee under the Food Acts is simply appalling. Mr. Bannister told the committee that, to the best of his belief, the Public Analysts' Society's limits were 8.5 solids not fat, and 2.5 of fat!!! Mr. Bannister's education is apparently in this lamentably imperfect state owing to his having neglected to study back numbers of FOOD AND SANITATION.

**SOMERSET ANALYST'S REPORT.**—The report of Dr. H. J. Alford, county analyst, stated that during the quarter 294 samples were analysed, of which 12 were adulterated, but not in a manner prejudicial to health.



**THE BIRMINGHAM VINEGAR BREWERY CO., LTD.,  
v. PERCY TOWNSCHITZ & CO.**

MR. JUSTICE NORTH, on July 13th, heard a motion in the action of the Birmingham Vinegar Brewery Company (Limited) v. Percy Townschitz & Co., for an injunction to restrain the defendants, their travellers, servants, and agents, until trial or further order, from selling and exporting Worcestershire sauce not of the plaintiffs' manufacture, under labels bearing the words "Holborn Vinegar Brewery Company," so as to lead to the belief that the sauce was the manufacture of Holbrook and Co. Mr. S. Hall, Q.C. (with him Mr. Waggett), said the plaintiffs were manufacturers of vinegar at Birmingham, under the name of the Birmingham Vinegar Brewery Company (Limited), and they also carried on the business of manufacturers of pickles and sauces under the name of Holbrook or Holbrook and Co. It seemed that when they first began this branch of business they had a traveller of the name of Holbrook, and, with his consent, they adopted his name so as to distinguish the goods. Holbrook's sauce had now become known in the trade as the manufacture of the plaintiffs. Large quantities of the sauce were exported to South Africa, and the defendant, who carries on business in Leadenhall-street, was now exporting Worcestershire sauce to South Africa under labels which the plaintiffs alleged to be a colourable imitation of theirs. Copies of the two labels having been handed to his lordship for comparison, Mr. Swinfen Eady, Q.C. (for defendant) suggested that his lordship should also have Lea and Perrin's label, as this was the original source of all Worcestershire sauce labels. Down to the words "sole manufacturers," every label was absolutely identical. Mr. Hall admitted that the label was common to the trade. He relied on the similarity between "Holborn" and "Holbrook." The defendant did not live in Holborn, and had no connection whatever with a Holborn Vinegar Brewery Company. He could not understand why the defendant resisted the case, as, according to the evidence, he had not sent out any sauce in the year 1894, and only £35 worth in 1893. If the defendant would discontinue the use of the name, and give an undertaking, he (Mr. Hall) could not see why the fight should be continued. His Lordship: Perhaps the defendant does not see why you should continue under those circumstances. Mr. Eady thought the case was not one in which the Court would grant an interlocutory injunction, seeing that although the writ was issued on March 6th the notice of motion was not served till June 19th. As the plaintiffs had waited for four months they might very well wait till the trial. Mr. Hall said they had been waiting to receive bottles from South Africa. If the Court thought the motion should stand till the trial he would not attempt to force it on. His lordship: I see a difficulty in your way, but at the same time I confess I do not understand how "Holborn" gets on the defendant's label. Mr. Eady said that was easily explained; the defendant's trade mark was adopted by a person who lived on Holborn-viaduct, and he invented the name, never having heard of the plaintiff. The picture on his label was that of the Holborn-viaduct. The Kaffirs in South Africa would see the picture, and having no knowledge of the Birmingham Vinegar Brewery Company could not possibly be deceived. If his learned friend thought he could make anything of the case he would not object to it standing till the trial. Mr. Hall consented to the motion standing till the trial of the action.

**ST. GILES' BOARD OF GUARDIANS AND THE  
ADULTERATION COMMITTEE.**

MR. G. P. WILLOUGHBY, presiding at the last meeting of the Board, it was unanimously resolved that Mr. Henry Cooper be appointed as a delegate from St. Giles' district to attend and give evidence at the Special Committee of the House of Commons, now sitting to hear witnesses as to an amendment of the Sale of Food and Drugs Acts.

**GUINNESS'S STOUT ADULTERATION.**

AT Dublin, on June 30th, E. and M. Darcy, licensed vintners, Ballsbridge, were charged with having, on June 11th, sold a quantity of porter which was represented by the label to be Guinness's Double Stout, and which on analysis proved not to be such. Mr. J. H. Campbell, Q.C. (instructed by Messrs. Sutton and Co.), appeared for the prosecutors, Messrs. Guinness and Co. Mr. T. O'Shaughnessy, Q.C. (instructed by Mr. Gerald Byrne), represented the defendants. Mr. Campbell said that the analysis of stout which was described as "double" showed that it had been tampered with, and a mixture of single and double stout substituted. Some six months ago the defendants were prosecuted for an offence practically the same as the one now charged. On that occasion it was selling single stout as double stout, and they were brought before the Court, and on pleading guilty and promising not to repeat the act again, Messrs. Guinness were satisfied, and consented to the case being disposed of on a nominal penalty of £1. He would ask his Worship to take a more serious view of the present case.—James Crowe deposed that he was sent on the day in question by the firm of Messrs. Guinness to purchase stout. He bought the six bottles from the defendants, and brought them to Messrs. Sutton's, where they were sealed up.—Mr. O'Shaughnessy said he objected to the procedure that had been adopted. It was not in accordance with the sub-section which dealt with such cases.—John Evans deposed that he saw Crowe take the stout from Messrs. Darcy's shop.—Mr. Ferguson, a brewer at Messrs. Guinness's, deposed that on June 11th the stout produced was handed to him. Mr. Beare, who was also a brewer and analyst in the firm, subsequently took it into his charge and analysed it.—Mr. Beare deposed that the stout in question, which was analysed by him, was not up to the specific gravity of pure double stout. In a 36-gallon cask the difference in the specific gravity between pure stout and the stout analysed would be about three and a-half gallons.—To Mr. O'Shaughnessy: Only one bottle of stout was analysed.—For the defence, Mr. O'Shaughnessy said he would satisfy his Worship that the person charged had, within the meaning of the Act, taken every reasonable precaution to prevent the offence, and consequently asked that the case be not sent forward.—Mr. Power, manager of the firm, deposed that after the last prosecution he got orders to take every precaution that such an offence should not be repeated.—Mrs. Elizabeth Darcy said she gave the instructions mentioned, and she was unaware that any offence had been committed until she got the notice. Her instructions were that the double stout was to be sold under blue labels and the single under brown.—Mr. O'Shaughnessy urged that informations should be refused.—Mr. Campbell said they had not the bottles before them.—Mr. O'Shaughnessy said unless his Worship believed the lady had sworn what was untrue information should be refused.—His Worship sent the case forward for trial to the Recorder, bail in £10 being accepted.

**MONAGHAN AND THE PUBLIC ANALYST.**

AT the last meeting of the grand jury a voluminous correspondence between the Carrickmacross Board of Guardians and Sir Charles Cameron, public analyst for the County Monaghan, was read. The chief feature contained therein was the fact that the magistrates had refused to convict in a case of adulteration where a certificate was given signed by Sir Charles Cameron. The grand jury had sent a resolution passed at their last meeting to the analyst, which elicited a reply expressing surprise at the action of the grand jury, and pointing to the fallibility of Boards of Guardians. Sir Charles Cameron quoted cases in which his certificates had secured conviction, and concluded his letter as follows:—"I would respectfully ask you to rescind the resolution of which I complain, and which, I am sure, you would not have passed if the true facts of the case had been before you."

After some observations from the grand jury, it was proposed by Mr. Rafferty, seconded by Mr. Bustard, and carried:—That if Sir Charles Cameron feels hard hit by the resolution of the grand jury he be called on to send in his resignation so that the position may be open for competition."

**HORLICK'S**  
**MALTED**  
**For Infants**  
**and Invalids.**  
**MILK**  
**CONTAINS PURE MILK, WHEAT AND BARLEY MALT.**  
**NUTRITIOUS, DIGESTIBLE. GUARANTEED ABSOLUTELY PURE.**  
**OF ALL CHEMISTS AND STORES.**  
**SAMPLES FREE. 39, SNOW HILL, E.C.**



## WOLVERHAMPTON.

## ALUM IN FANCY BREAD.

## SERIOUS CASE OF ADULTERATION.

At the Wolverhampton Police-court, on the 27th ult., before the Stipendiary, Henry Nicholls, refreshment-house keeper, of 139, Lower Stafford-street, Wolverhampton, was summoned at the instance of Mr. G. F. Allwood, inspector of food and drugs for the borough, under two sections of the Food and Drugs Act, 1875, with (1) selling an article of food, to wit, fancy bread, with which was mixed an ingredient injurious to health, and also with selling an article which was not of the nature, substance, and quality demanded by the purchaser.

Mr. Allwood in stating the case explained that the charges were laid under Sections 3 and 6 respectively of the 1875 Act and were both in respect of the same offence. The facts were simply that on May 19th last he called at the defendant's shop, and, seeing some currant bread exposed for sale in the window and labelled "4d." per pound, asked to be supplied therewith. He then notified his intention of submitting same to the public analyst and gave the usual notices under the Act. Mrs. Nicholls said that she had put nothing wrong in the cake, but if anything of an injurious nature were there it would be caused by the "Excelsior Egg Powder" she had used in its composition. The inspector then went on to deal with the question of alum in bread being of an injurious character, and cited a portion of the Judges' decision in the recent appeal case of *James v. Jones* as showing clearly that alum when found in bread would be injurious to health. There was no doubt, he said, that the egg powder was at the bottom of all the mischief, as the analyst had discovered alum as one of its ingredients. This case differed from the ordinary run of adulteration cases, being of a very serious nature, owing to the alum rendering the bread of a character injurious to health. It was extremely unfortunate, he said, that the decision above referred to had rendered it impossible for them to proceed against the manufacturers of the powder. The prosecution were compelled to institute proceedings against people who could hardly be said to be culpable in the matter. This prosecution was a new departure, previous cases of alum adulteration having been for plain bread adulteration only.

Evidence was then given by the inspector, and—

Mr. E. W. T. Jones, public analyst for the borough of Wolverhampton, County Council of Staffordshire, etc., stated that on making an analysis of the sample of currant bread submitted by the inspector he found it contained alum to the extent of 210 grains per 4lb. loaf, which was a very serious adulteration, in fact, one of the worst cases of alum adulteration that had come within his knowledge. In his opinion, it was injurious to health, and there was no necessity whatever to use alum in the manufacture of fancy bread. He had also analysed a sample of the "Excelsior Egg Powder" and found it contained 37.4 per cent. of alum.

Mrs. Nicholls, who appeared, said she had no idea the egg powder contained alum or she would not have used it. She was a poor woman and in an unfortunate position owing to her having to support a sick husband. The Stipendiary (Mr. Neville) pointed out the serious nature of the charge, and said the defendant had rendered himself liable to a penalty of £50 for this offence, and to six months' imprisonment in case of a second offence. He would now only impose a fine of £3 and costs, amounting to £5 0s. 6d.

## CHEMISTS AND GROCERS.

In the Court of Appeal on July 12th (before the Master of the Rolls, Lord Justice Kay, and Lord Justice A. Smith), the case of "*The Pharmaceutical Society v. Arnsion*" was heard. This was an action brought by the plaintiffs against the defendant to recover a penalty under the Pharmacy Act, 1868, for that he, being a grocer at Derby, and therefore an unqualified person, had kept open shop for the retailing, dispensing, or compounding of poisons, namely, a compound called "Powell's Balsam of Aniseed." The contents of the bottle in question was found to contain one-tenth of a grain of morphine. The action was tried in the county-court at Derby, when the county-court judge held that the compound was not dangerous to an adult, but would be injurious and might be fatal to a child in ordinary health, and would probably be fatal to an infant who took the whole contents of the bottle. The learned judge gave judgment for the plaintiffs for the £5 penalty. The defendant appealed to the Divisional Court, who upheld the decision of the county court judge. The defendant again appealed. Mr. Bonsey, on behalf of the defendant, contended that the Act merely prohibited the sale by unqualified persons of poisons or of preparations of poisons, whereas this medicine was a compound.—The Master of the Rolls: If you put opium into brandy is not the mixture a preparation of opium?—Mr. Bonsey said he should call the mixture brandy.—The Master of the Rolls: When does opium cease to be opium?—Mr. Bonsey said he should not call the mixture opium. It would be most inconvenient to the poor if the sale of proprietary medicines by grocers were prohibited.—The Master of the Rolls: I think it would be great advantage to them, because most proprietary medicines contain nothing at all, and those who use them are cured by faith.—Mr. Bonsey said most cough lozenges contained poison in slight quantities.—The Master of the Rolls: Then I will never take them again.—Mr. Bonsey said antibilious pills contained poison.—The Master of the Rolls: I think you are wrong. I have seen numbers of prescriptions by eminent doctors

for antibilious pills, and none of them contained poison. I think you are endeavouring to poison our minds, Mr. Bonsey, with your compounds.—Mr. Bonsey said the Act specially exempted patent medicines from its operation.—The Master of the Rolls: But this is not a patent medicine.—Lord Justice Smith: Are Holloway's pills a patent medicine?—Mr. Bonsey: No, my lord; neither are Cockle's pills.—Lord Justice Kay: The Act says that an unqualified person shall not sell any quantity of poison, however small.—Mr. Bonsey said that this was a compound, and therefore it was not within the Act.—Mr. Moulton, Q.C., rose to address their lordships on the same side.—The Master of the Rolls: What, you also! Good gracious!—Mr. Moulton contended that the Act, in excluding patent medicines from its operation, referred to proprietary medicines which bore the Government stamp. This really was a trade fight between the chemists and the grocers. It was not more dangerous to the public that sealed-up bottles of medicine which the seller could not touch should be sold by grocers than by chemists.—Mr. Crump, Q.C., having been heard upon the other side, their lordships dismissed the appeal with costs, being of opinion that the compound came within the provisions of the Act. Judgment affirmed and appeal dismissed with costs.

## NORFOLK COUNTY COUNCIL.

## REPORT OF THE PUBLIC ANALYST.

MR. SUTTON reported that the percentage of adulteration found in this county under the new arrangement by which the samples are collected by the police in plain clothes, and out of their own district, amounts to the high figure of 19.14. This is practically 7 per cent. higher than the average for the United Kingdom, as shown by the last report of the Local Government Board. The percentage in each separate quarter works out as follows:—First quarter 21.42, second 14.29, third 17.64, fourth 6.45, fifth 23.69. The bulk of the samples found to be adulterated do not call for special notice, but I regret to find that, owing to lack of care on the part of the prosecuting authority, two flagrant cases escaped punishment, namely, one sample of butter which contained 23½ per cent. of water, and one sample of ground ginger, half of which was only genuine, the remainder being made up with rubbish. Previous to the present quarter I have never made any examination of drugs; but the police have collected for me in this fifth quarter eight samples of sweet spirits of nitre and five samples of tincture of rhubarb. It was found that two samples of the spirits of nitre were very deficient in strength. After making due allowance for the inevitable deterioration from keeping, etc., one was 50 and the other 75 per cent. below strength, and were practically useless as medicines; one other was of low quality, but not in my opinion calling for prosecution. One sample of tincture of rhubarb was of low quality, but I think it will be sufficient if the police warn the seller as to his future supplies. It is somewhat singular that although nineteen samples of butter were taken during 1893, not one sample was found to contain margarine. Out of ten samples taken in the fifth quarter four were found to contain this foreign fat varying from 20 to 40 per cent. In conclusion, I would respectfully suggest that the working of the Act should be still further extended.

## BEESWAX ADULTERATION PROSECUTION.

AT Wolverhampton, on July 11, Samuel Farley, herbalist and provision dealer, High-street, Cradley Heath, was summoned for selling beeswax not of the nature and quality demanded. Mr. R. A. Wilcock prosecuted on behalf of Mr. Van Tromp, the inspector under the Food and Drugs Act.—It was stated that Mr. Toy, an assistant, went to the defendant's shop and asked for a quarter of a pound of beeswax, and upon being supplied he paid 5d. Upon being told that the wax was being purchased for analysis, defendant said, "I was not asked for pure beeswax." The analysis showed that the article contained no real beeswax, but was an imitation of paraffin. The article could be purchased at 7d. per lb., and genuine beeswax 1s. 7d.—Defendant admitted the sale, but said he could not possibly sell genuine beeswax at such a price, but sold paraffin wax to joiners for the purpose of polishing, it being more serviceable than genuine beeswax. He had no intention of violating the law, and would see in future that such an error did not occur.—Mr. Bassano said the magistrates considered it a grave case. It was a fraud for people to sell one article for another, especially when it is inferior. Defendant would be fined £4 6s. 6d., including costs.—Rachel Cox, chemist, Halesowen-road, Old Hill, was fined a similar sum for a like offence.—The magistrates remarked that the costs included the solicitor's fee for the prosecutions.

## LEEDS AND ADULTERATION.

THE following is Mr. Thomas Failey's report on analyses made for the city of Leeds during the quarter ending June 30th, 1894:—The samples received have been—Milk 31, butter 7, cheese 1, lard 2, tea siftings 1, vinegar 3, iodoform 2, glycerine 4; total 51. Two of the samples of milk were adulterated with 10 and 8½ per cent. of water respectively, as compared with the lowest quality of genuine milk, and five were reported to be of low quality. One sample of butter was adulterated with at least 58 per cent. of foreign fat. One sample of vinegar was found to consist of dilute acetic acid, and did not contain any real vinegar. Two of the samples of glycerine were adulterated with "white arsenic," containing four and a quarter and two grains per pound respectively. There is, however, no difficulty in obtaining glycerine free from arsenic, as out of eighteen samples taken in Leeds during this and the preceding quarters only five contained arsenic in appreciable quantity. The other samples were genuine.



**BUTTER ADULTERATION.****PROSECUTIONS BY THE CORK BUTTER MARKET TRUSTEES.**

AT the Police-office on July 6th (before Sir George Penrose, Sir John H. Scott, Alderman Flavin, and Mr. Mayne, R. M.), eleven farmers were prosecuted at the suit of the Cork Butter Market Trustees for unlawfully sending to the market butter for sale containing an undue quantity of water. The defendants were—James J. O'Connell, Knockdurath, Headford, co. Kerry, whose firkin contained 21.17 per cent. of water; Cornelius Lynch, Headford, one firkin with 22.20 per cent. of water; Patrick Brennan, Oughterhard Cross, co. Clare, one firkin with 22.92 per cent. of water; Bernard Keating, Killaba, co. Clare, one firkin with 22.42 per cent. of water; John Cronin, Crossfield, Mallow, one firkin with 22.20 per cent. of water; Terence Sweeney, Horse-mount, Macroom, one firkin with 24 per cent. of water; Denis Falvey, Ballymurphy, Upton, three firkins, one with 25.12 per cent. of water, the second with 22.04 per cent. of water, and the third with 23 per cent. of water; Maurice Deane, Castlegregory, one firkin with 22.11 per cent. of water; John Sullivan, Ravenship, Knocknagree, co. Cork, one firkin 22.65 per cent. of water; John O'Shea, Carrignaholt, co. Clare, one firkin 24.25 per cent. of water; John Collins, Abghadoe, Killarney, one firkin 22.57 per cent. of water. Mr. Alfred Blake, solicitor, appeared to prosecute on behalf of the Cork Butter Market Trustees.—Mr. Blake, addressing the magistrates, said: I understand that some of these defendants are represented by solicitors and others appear here for themselves. I believe they all intend putting in a plea of guilty, and if that is so I will give you the percentage of water in each case, and then you can deal with each case as you think proper. Formal evidence having been given of the quantity of water in each case, Mr. Blake said the Bench were aware that in each case they could impose a fine of £10 and forfeit the butter. He asked them to have regard for the trustees in the matter of costs. The prosecution was brought really in the interests of the farmers, so that they should send to the Cork Butter Market butter that would find favour in the English markets, and not have it second to butter from other countries. The trustees had no desire to severely punish these men, but they wanted the public to know that nothing would be allowed to pass through the market but butter of a proper quality.—The defendants having pleaded guilty, the magistrates retired, and after a short deliberation returned, when Sir George Penrose said that they had considered the manner in which the cases had been admitted by the defendants, and had taken it into account in the hope that such a thing would not occur again. For the protection of the public and the Butter Market Trustees they should impose substantial fines. The fines, though smart, were far short of what they might be. Fines of £2 and 10s. costs were imposed in all cases, and the butter not forfeited, except in the case of Terence Sweeney, in which there was a large percentage of water, and a great deficiency of fat, and a fine of 10s. and 10s. costs was imposed, and the butter ordered to be forfeited. In the case of Denis Falvey a fine of £2 and £1 costs was imposed, and the worst firkin of butter to be forfeited. In the case of John Shea a fine of 10s. and 10s. costs was imposed, the butter to be forfeited.—Alderman Flavin said he wished to say that if those frauds were continued they would only recoil on the character of the Irish farmer and Irish butter, and would ultimately drive the trade out of the country.—Mr. Blake said that the trustees would seek to have the full penalty imposed in future.—Sir George Penrose: If this continues I will not hesitate to impose the full penalty.

**CO-OPERATIVE STORES AND THE "SPENT" GINGER SWINDLE.**

WILLIAM COATES was charged with an offence under the Food and Drugs Act, at Low Spennymoor, on June 8th.—Mr. Scott Elder said defendant was charged with having sold adulterated ground ginger. This was the first case which had ever been before the Durham bench, and he might therefore explain that the ginger sold by defendant was adulterated to the extent of 40 per cent. with exhausted or spent ginger. The latter was the waste product of the ginger-beer trade. The essence having been taken out of the ginger, the remaining fibre was ground up and mixed with good ginger, and then sent out to tradesmen, who retailed it to customers. One of Mr. Scott Elder's subordinates gave evidence of going to the Low Spennymoor Co-operative Society. There he purchased three ounces of ground ginger. The manager supplied him. He paid 2½d. for the ginger. He told defendant that the ginger was for the purposes of analysis, and divided it accordingly, and sent a sample to the county analyst. The latter's certificate setting forth that the sample was adulterated to the extent of 40 per cent. was then put in.—Mr. Oliver explained that defendant always got his ginger from a firm named Shipley. But when they sent the last order Shipley was out of it, and sent the order on to be supplied by another firm. Both Shipley and the Co-operative Stores had been taken in by the article supplied. Defendant was perfectly unaware that he was selling adulterated ginger.—Fined 5s. and costs.

**IMPORTANT VINEGAR PROSECUTION.**

AT Chichester on July 14th, before the Mayor (Alderman Smith), Alderman Caffin, Alderman Garland, and Mr. E. M. Street, William Blythe, grocer, Rumboldswyke, was summoned for selling malt vinegar not of the nature, substance, and quality

demand.—Mr. W. P. Cogan appeared for the defence.—On the 22nd May Sergeant Goble paid a visit to the defendant's shop and purchased a pint of malt vinegar for 2d., informing the defendant's wife, who served him, that it was intended for analysis. A portion of the sample was subsequently forwarded to the county analyst, whose certificate showed that it contained 30 parts of malt vinegar and 70 parts of vinegar not made from malt.—At the instance of the defendant's advocate, Mr. Otto Hehner, the analyst, was called, and he proved that the certificate produced was his.—In cross-examination, he stated that the 70 parts of the sample not made from malt were made from other saccharine material.—Mr. Cogan: Do you say that the addition of these other parts tends to lower the quality of the article?—Witness: I don't say that. In my opinion malt vinegar, being asked for, must be given, whether it lowers the quality of the article or not.—Does it lower the quality?—That is a question of opinion.—What is your opinion?—In my opinion malt vinegar is the best quality sold. It is made from the most expensive materials, and vinegar made from substitutes, although just as acid and good for ordinary table purpose, is not of the same high quality as malt vinegar. Vinegar can be made from other articles besides malt, and can be a perfectly serviceable and good article.—Are you of opinion that the ingredients mixed are injurious to health?—Certainly not. I think it is a perfectly sound and useful article, but it is not malt vinegar.—In reply to other questions, he said he did not know whether this vinegar was known in the trade as "commercial malt vinegar." There was no doubt that under that name many concoctions were sold.—For the defence, Mr. Cogan informed the Bench that his client purchased the article as commercial malt vinegar, and he had a written warranty within the meaning of the section to that effect. On the barrel was a label bearing the words "Guaranteed pure malt vinegar." There was, however, a much wider defence. The reputation of the wholesale merchants was here at stake, and they had come forward with the best evidence obtainable to show that the article was a pure sample of what was known in the commercial world as malt vinegar.—Evidence was then given by the defendant, who said he sold the vinegar in the same state as he received it.—Mr. Oswald D. Cottell, partner in the firm of White, Cottell, and Co., vinegar merchants, of Long-lane, Borough, said the article was a genuine vinegar known throughout Great Britain as commercial malt vinegar. It was far cheaper to make vinegar from so-called barley malt.—In cross-examination, he said the vinegar was made from malt liquor. Asked as to what that liquor was composed of, he declined to disclose trade secrets.—In answer to the Bench, he stated that he had been in the trade 25 years, but did not know of such a thing as malt vinegar made absolutely from malt.—Professor Atfield was in attendance to give further evidence for the defence; but the Bench held that the plea as to warranty was a good defence as far as Blythe was concerned, and they had no alternative, under the 25th Section of the Act, but to dismiss the case. The expenses of the County Analyst were allowed, and the Bench also granted the fee of the defending solicitor.

**NOTTINGHAM MAGISTRATES AND THE ACTS.**

THE encouragement Nottingham magistrates give to adulteration was again illustrated at Ripley Petty Sessions on July 16th. Benjamin Clark, of Padley Hall Farm, was summoned by Captain Sandys for milk containing 16 per cent. of added water. The defendant said that he thought some diluted milk prepared for the cows had got mixed with the new milk by mistake, which apparently quite satisfied the Nupkines upon the Bench, as they promptly dismissed the case. It is absurd to suppose that County Councils or inspectors can enforce the Acts when magistrates in this manner deliberately stultify their work.

**THE BRADFORD ANALYST'S REPORT.**

The report of the borough analyst (Mr. F. M. Rimmington) was presented, and showed that during the last quarter 84 samples of various kinds of articles had been examined, including 61 samples of milk. The only adulterated articles were two samples of milk.

**AMERICAN LEGISLATION AGAINST PRESERVATIVES.**

THE Health Department of New York City has given notice that all milk dealers who use "Preservaline" will be prosecuted.

**CONTRACTS FOR DISINFECTANTS.****IMPORTANT NOTICE!**

To Local Boards of Health, Vestries, and Sanitary Authorities generally.

**THE SANITAS COMPANY, LTD.**, beg to give notice that they have reason to believe there are several unprincipled firms who are offering for sale more or less worthless and fraudulent imitations of the well-known "Sanitas" Disinfectants.

The various "Sanitas" Disinfectants are all manufactured by scientific processes which are protected by Letters Patent, and in order to guard against the nefarious practices above referred to, it is respectfully suggested that all contracts for "Sanitas" Disinfectants and Appliances should be entrusted to the Sanitas Company, Ltd., who are the sole manufacturers, or that a stipulation should be made making it obligatory upon contractors to supply the goods in our original sealed packages.

**THE SANITAS COMPANY, LIMITED**

(C. T. KINGZETT, F.I.C., F.C.S., Managing Director)

LETCFORD'S BUILDINGS, THREE COLT LANE, BETHNAL GREEN, LONDON, E.



## CONFERENCE ON THE SALE OF FOOD AND DRUGS ACTS.

(Continued from page 214.)

### A STANDARD FOR DAIRY PRODUCE.

MR. EASTON suggested that there should be a standard for milk whereby milk should be recognised as milk.

Mr. Robinson said he would like to bring forward his suggestion "That a standard of purity for milk and butter should be fixed by the Local Government Board, with power for them to alter it in case of exceptional seasons."

A delegate suggested that the words "for milk products" should be inserted instead of "butter," as that would then include cream, cheese, etc. Mr. Robinson agreed to accept this.

A delegate said that some of the American cheese had no milk in it at all, and therefore it would not be a milk product.

Mr. Cassall said it would be better for the Government to lay down a clear definition under which all articles should be taken.

Eventually it was decided to amend the clause to read:—"That a standard of purity for milk and milk-products and other articles capable of definition should be fixed."

### ANALYSING FOREIGN GOODS.

Mr. Robinson moved as an additional clause:—"That all foreign articles of food and drugs imported as merchandise into and landed at any port in Great Britain and Ireland, which comes from a foreign country, shall be subject to examination, inspection, and analysis by officers of the Commissioners of Customs in the same way as tea now is, under Section 30 of the Sale of Food and Drugs Act, 1875." Mr. Day seconded the suggestion.

Mr. Cassall pointed out that if it devolved on the Customs to analyse it would mean the augmentation of the department, and he suggested that the duty should devolve on the part of the sanitary authorities.

The suggestion was accepted, and the motion so amended was carried.

### MISCELLANEOUS MATTERS.

It was agreed to add the following words to Clause 7:—"With or without imprisonment in the case of the second or subsequent offence."

Mr. Robinson brought forward Clause 2 of his suggestion, and moved that it be adopted by the Conference.

Mr. Easton said that was opening up the question as to whether milk should be exposed for sale in places where oil, soaps, &c., were sold. If the Conference was going into the question of registration they should see that milk should not be sold in places where it was not free from contamination.

The clause was then agreed to.

Mr. Leete said that as a rider to Mr. Brooks's motion in place of Clause 2, which had been accepted, he would move "That in all prosecutions under the Acts when two or more persons are brought before the Court, the onus shall be thrown on the original defendant to prove to the satisfaction of the Court that he has sold the article as he received it, and that the adulteration has been carried out by another defendant before he shall be exempt from conviction." This was accepted.

It was agreed that the resolutions should be forwarded to the Select Committee appointed, with the request that evidence be heard on these points.

A vote of thanks to the chairman concluded the proceedings.

### VESTRIES AND TRADERS.

The St. Luke's (Middlesex) Vestry had an animated discussion at their hall in City-road, E.C., recently, relative to certain prosecutions that had been instituted under the Sale of Food and Drugs Act, and which ended somewhat unsatisfactorily to the Vestry. In one case a shopkeeper was summoned for selling pepper adulterated with 60 per cent. of powdered rice. A fine of only 5s. and 2s. costs was inflicted, because the defendant declared he sold the pepper exactly as he got it from the wholesale dealer. There were two cases of milk adulteration, respectively with 23 and 12 per cent. of added water; and in each of those cases the magisterial penalty was 10s. 6d. and 2s. costs. Mr. Easterling thought that so long as magistrates were so lenient as Mr. Bros (at Clerkenwell) had been in these cases, people would not be deterred from defrauding the public. Mr. Peerless contended that people should in some way prove their assertions that they sold the article exactly as they got it, they should get a guarantee from the wholesale dealer, so that the Vestry might proceed against the latter in the event of one summons failing. Here was a milk dealer with a guarantee from the wholesale man; and he (the speaker) thought local authorities should have greater powers for sampling the churns as they arrived at the various railway stations from the farms. Some of the vestrymen were in favour of asking the magistrate to state a case for argument in a higher court both with regard to the pepper and the milk; but the majority of the meeting thought it would be better to await the decision of the conference on the subject, held at St. George's, Hanover-square, Vestry. The Public Health Committee brought up a report on the Sale of Food and Drugs Act (1875) Amendment Bill, now before the House of Commons, and recommended the Vestry to oppose the Bill, because the public analyst (Mr. A. W. Stokes) gave his opinion that, if passed into law, the result would be to entirely put a stop to the carrying out of the Food and Drugs Adulteration Acts. The Vestry decided to oppose the Bill, and to send delegates to the Conference on the general subject of adulteration.

## LEGAL.

### THE BIRMINGHAM VINEGAR BREWERY CO., LTD., AND "FOOD AND SANITATION."

IN the Queen's Bench, on July 13th, before Mr. Justice Wills and Mr. Justice Vaughan Williams, sitting as a Divisional Court, the case of the Birmingham Vinegar Brewery Company v. Henry came on for hearing. Dr. Blake Odgers, Q.C., and Mr. Hugh Fraser were counsel for the plaintiffs; Mr. T. Willes Chitty represented the defendant. Dr. Blake Odgers said this was an application to attach the proprietors of a paper called *FOOD AND SANITATION*, THE ANTI-ADULTERATION JOURNAL, for alleged contempt of court in an article published on June 9th last. The plaintiff company had brought actions against the newspaper for alleged libels published in December last and in February of this year. These articles arose out of a dispute between Champion's Vinegar Company and the present plaintiffs, and in commenting on the case of Champion and Co., the paper alleged that there had been prosecutions of the Birmingham Company's vinegar for adulteration. A writ was issued, and the defendant justified. An order was made for the defendant to give particulars of the cases in which plaintiffs' vinegar had been condemned, and they gave one at Bedlington. In that case, however, while the local analyst declared the vinegar adulterated, a Somerset House analyst said it was pure, and the summons against the vendor was dismissed. On June 9th the defendant published in *FOOD AND SANITATION*, an article entitled "Somerset House and Vinegar."

The plaintiffs now alleged that this constituted a contempt of court, as it referred to the Bedlington case, in which it was known that the plaintiffs' vinegar was attacked. This they said would prejudice the fair trial of the action. The defendant made an affidavit to the effect that the article was a *bona fide* criticism on the capacity of Somerset House analysts, and pointed out that the plaintiffs' name was in no way mentioned nor identified with the manufacture of the vinegar, nor would any one unacquainted with the Bedlington case know that the plaintiffs were the manufacturers of the vinegar in that case. The article, taken as a whole, could not prejudice the trial of the action, nor was it a contempt of court. The article, Mr. Chitty said, was written in consequence of a prosecution at Sheffield and would not affect the trial of the action. Mr. Justice Wills said if committal had been pressed for he should have been much disposed to grant it. As it was, the defendants must pay the costs of this motion as between solicitor and client, enter into an undertaking that, until the action was tried—which, of course, the plaintiffs must undertake should be with all reasonable despatch—no more attempts should be made to prejudice the course of justice, and no more articles be written upon the quality of the plaintiffs' vinegar or the Bedlington prosecution. The defendants must also give an undertaking to discontinue the sale of the paper containing the article complained of. Mr. Justice Vaughan Williams concurred.

### THE BIRMINGHAM VINEGAR BREWERY CO., LTD., AND GOODALL, BACKHOUSE, AND CO.

THE hearing of the motion in the action of Powell v. Birmingham Vinegar Brewery Company (Limited) was resumed before Mr. Justice Stirling, in the Chancery Division of the High Court of Justice. The plaintiff (who trades as Goodall, Backhouse, and Co., at Leeds) sought to restrain the defendants, their servants and agents, until trial of the action, from passing or attempting to pass off, or enabling others to pass off, sauce not of the manufacture of the plaintiff, as and for the goods of the plaintiff, by the use of the term "Yorkshire Relish," or in any other way. Sir R. Webster, Q.C., Mr. Graham Hastings, Q.C., and Mr. John Cutler appeared for the plaintiff; Mr. Moulton, Q.C., Mr. Buckley, Q.C., and Mr. Vernon Smith represented the defendants. Mr. Moulton contended that if a person chose to use a name for a patented article for many years, he did not acquire a right to the name, when it became *publici juris*, by reason of the fact that it had been his manufacture for all those years; and there was no difference between a patent and a secret recipe for a sauce. His Lordship: If you are entitled to call your sauce by the same name as the plaintiff's, it should be the same thing, which it is not. Mr. Moulton said if an injunction were granted it would restrain anyone from manufacturing the identical article. If the plaintiff had not a right to the term "Yorkshire Relish" as against all the world, then the ground for an injunction was gone. Would the Court say that no one had the right to use the words "Yorkshire Relish?" His Lordship: I am not going to say that. Mr. Hastings: Nor has the court been asked to say that. Mr. Moulton said that, according to the decision of the House of Lords, everyone had as much right to use the words "Yorkshire Relish" as they had "Yorkshire pudding." It could not be suggested that the defendants had put into the hands of the middleman the means of deceit, as the label was distinct and the bottles bore the words, in raised letters, "Holbrook's Yorkshire Relish," consequently no one could mistake Holbrook's for Goodall's. Upon the whole case he submitted that the plaintiff had failed to establish his right to an injunction, and consequently the motion ought to be refused. His Lordship said that as at present advised he did not wish to hear Mr. Hastings in reply, but if on reflection he should alter his mind he would hear him on another day.



## THE SELECT COMMITTEE ON ADULTERATION.

## III.

*(Continued from page 224.)*

Now, is not the medical officer of health often appointed analyst?—Mr. Thomas: I do not think so, but in any cases where it has been done the Board would satisfy itself as to his fitness.—Mr. Kearley: The Local Government Board require testimonials—can you tell me what?—Mr. Thomas: The practice is this: The Local Authority, when a vacancy arises, notifies the fact to the Board, with the appointment they propose to make. Then the Board forwards a form on which the Authority is required to state the evidence on which they are satisfied as to the qualifications of the candidate. On that statement the Board proceeds to consider the appointment.—Mr. Kearley: Then no examination or special course of training is required?—Mr. Thomas: But the Board require to be satisfied that he has gone through a training to fit him for the post. A medical officer, unless showing special qualifications, would not satisfy.—Mr. Kearley upon this called attention to the appointment of an analyst by the Hackney Vestry and asked Mr. Thomas if the Committee could have evidence of the chemical qualifications of the present analyst under that authority. Mr. Thomas could not reply definitely as to his power to furnish such evidence. Mr. Kearley remarked that the point he was trying to make was that there was no close scrutiny. Continuing his inquiries he pointed out that under section 10 the Local Government Board have the power to sanction the removal of an analyst on the application of the Local Authority, and asked if that had ever been done on the ground of incompetence? Had it ever been brought to the notice of the Board that an analyst was incompetent, and had the Board sanctioned removal in any such case?—Mr. Thomas did not remember any instance.—Mr. Kearley referred to the evidence previously given concerning the issue of a circular by the Local Government Board to Authorities where the Acts were not enforced, and said: I think you pointed out that, possibly owing to that circular, the number of samples taken had largely increased, and you gave figures from 1884 to 1893, which showed a very large increase?—Mr. Thomas: I think my special point was about the years 1883-4-5, when there was a sudden jump. There is not a doubt that the Sanitary Authorities generally gave much more attention to the matter after the circular.—Mr. Kearley: The Local Government Board deems that it has no power of compulsion with Sanitary Authorities. Has there ever been a suggestion made that it would be beneficial for the Board to apply for powers to put these Acts in force itself at the expense of Local Authorities?—Mr. Thomas did not call to mind a proposal of that nature, but it was quite probable that it had been made.—Mr. Kearley: But the fact remains that there is no power?—Mr. Thomas: Yes.—Mr. Kearley: And, of course, the Board are being continually reminded of the work of the Authorities by the annual returns they make?—Mr. Thomas: That is so.—Mr. Kearley: Therefore it is still under the notice of the Board that certain Authorities are not working these Acts?—Mr. Thomas: Yes.—In the course of further examination by Mr. Kearley, Mr. Thomas stated that there was no record of the number of cases dismissed under the warranty clause. He agreed that on the fines at present inflicted in many districts it paid to practise adulteration. To sell water at twopence per quart appeared to him to be most profitable. The Local Government Board did not lay itself out to ascertain the laws of other countries. He did not think the appointment of travelling inspectors under the Local Government Board would largely facilitate the working of the Acts. The end at which the Board had aimed had been to get the Local Authorities to do the work.—Mr. Kearley: I do not mean the centralisation of the working of the Acts but the despatch of travelling inspectors to different parts of the country.—Mr. Thomas: The Board would be shy of undertaking anything which would interest them directly in the taking of samples.—Mr. Kearley: Would you give us your opinion of the results of taking samples of other foods in transit? Would that not be beneficial? Goods come in an adulterated form and are circulated, and in those districts where inspectors are not close they are sold with impunity.—Mr. Thomas: Of course, you have the analogy of tea. I imagine it is a very important point to make some arrangement for other articles similar to that for tea.—Mr. Kearley said there were powers which would permit that to be done at once, and mentioned Clause 18 of the Margarine Act and Clause 2 of the Merchandise Marks Act. On Mr. Kearley approaching the subject of the milk standard on which he had given Mr. Thomas notice of a question, Mr. Thomas said he wished to disclaim any intention of speaking on behalf of the Local Government Board, and he wished to explain that the suggestions for improvements in the Acts which he mentioned at the last sitting were not in any way put forward by the Board, but were simply placed before the committee as expressions of opinion which the Board had received from outside. Mr. Kearley asked if the witness could give any date concerning his expression of opinion at the previous sitting that analysts in early times took a much higher milk standard than they do now?—Mr. Thomas: Some years ago the standard of the Society of Public Analysts was 9 per cent of solids not fat and 2·5 solids of fat. It is possible that analysts, knowing that some samples of genuine milk fall below the standard, have put their standard somewhat lower. A good many analysts would hesitate to condemn milk just short of the standard.—Mr. Kearley: The

alteration which has taken place is that by improved knowledge they were able to transfer from the solids not fat an extra  $\frac{1}{2}$  per cent to fats, and thus, whilst the percentage of total solids remained at 11·5, the percentage of fats is raised to 3. Can you give us any idea as to the standard that Somerset House has adopted?—The Chairman thought the question had better be addressed to the representatives of Somerset House who would attend.—Mr. Kearley: Are you aware that there are fixed standards of milks in the United States and Continental countries?—Mr. Thomas was not aware that definite standards were in existence. Mr. Kearley, turning to the subject of vinegar, asked if he had correctly understood Mr. Thomas to say that the enormous recent increase in the number of samples taken was due to a conclusion to which analysts had come that nothing was vinegar unless made from malt.—Mr. Thomas disclaimed any intention to convey that impression.—Mr. Kearley: In the opinion of the Local Government Board may vinegar be brewed from something different to malt, the same as beer may be beer without being brewed from malt and hops?—Mr. Thomas: Vinegar, I imagine, comes from wine. Secondly, it may be made in one or two ways I mentioned.—Mr. Kearley: I take it that the offence would be supplying other than malt vinegar when malt vinegar is asked for. I wish to ask you whether Somerset House is working in friendly accord with the analysts of the country?—Mr. Thomas said the Local Government Board would have no knowledge. He could not say whether the moisture or dryness of pasture would affect the quantity of water in milk.—Mr. Kearley: A point was raised as to milk being direct from the cow and yet of low standard, coming lower than the lowest standard suggested in Dr. Bell's figures in the investigations made by Somerset House. You might not care to express an opinion as to the desirability of fixing a standard?—Mr. Thomas: I do not see how it would be possible, for the reasons I have stated.—Mr. Kearley: In districts adjoining each other in London the percentages of adulteration vary enormously; can you account for that? Mr. Thomas: Without information concerning the practices of the Inspectors I could not express the least opinion.—Captain Bagot: Does that remarkable difference exist only in London?—Mr. Thomas: Oh, no.—Colonel Bagot: Is it more in London than anywhere else?—Mr. Thomas: It is noticed more in London.—Colonel Bagot: But they exist all over the country?—Mr. Thomas: I should say so.—Colonel Bagot: Would it not be the fact that even in different streets different cows might prepare the milk, without any question of adulteration?—Mr. Thomas: The number of samples taken are sufficient to show that there is something more than a difference in the milk or cows.—Mr. Kearley: The Local Government Board have taken no samples to ascertain the reasons of this difference?—Mr. Thomas: No.—Mr. Kearley: I want to ask you whether the Board is not perfectly aware that the diminution of adulteration is dependent upon the energetic working of the Acts.—Mr. Thomas replied that that was so.—Sir Mark Stewart asked if there was any rule requiring different analysts to pursue the same methods in arriving at conclusions.—Mr. Thomas said there was no rule of that kind.—Mr. Kearley wanted to know if there was any attempt on the part of Somerset House to keep itself in communication with analysts, so as to advise them as to tests or new forms of adulteration, but the witness was unable to say.—Mr. Kearley, calling attention to the extremely low percentages of milk adulteration in Salford and Cardiff, as testified by Mr. Thomas, remarked upon the rigorous enforcement of the law in those places, and asked if they were not a standing testimony to the value of the Acts. The witness agreed.—Replying to questions put by the same member on the subject of condensed milk, Mr. Thomas said the Local Government Board had received a very strong representation from the medical profession as to the injurious effects of condensed skim milk on children. It might be there was a considerable amount of nutriment in the milk after skimming. These were all the solids. He wished to emphasise the memorial because it was signed by a number of gentlemen whose names carried weight. It was received in April this year.—Mr. Kearley: The objection they raise appears to be a lack of disclosure of its character, or are they objecting to skim milk being sold as condensed milk at all?—Mr. Thomas: They say it must be sold with adequate notification.—Mr. Kearley: There can be no nutriment in skimmed milk which would support life in a child. I would suggest that it should be clearly stated on skimmed milk that it is not fit for food for children. (To the witness.) As to the difference between separated milk and skimmed milk—I think you have emphasised this difference. Do you think there are less percentages of fat in separated milk?—The Chairman: I think that question should be put to the scientific witnesses.—Mr. Jeffreys asked whether there were no special officers appointed to carry out the Acts? Medical officers and sanitary inspectors had a lot to do, had they any time? Was there not some other body, such as the police? In places where the Acts were not properly looked after, why did not the Board get the Authorities to appoint other officers?—Mr. Thomas remarked that the difficulty in such cases was not usually one of staff needs.—Mr. Jeffreys: In all those cases where the Acts are a dead letter, have the Board made representations?—Mr. Thomas: I believe so.—Mr. Jeffreys: Generally speaking, what has been the reply?—Mr. Thomas: Usually that they were considering it. Some have said they did not think honest traders should be harassed.—Mr. Jeffreys: They did not think of honest traders being harassed by undersellers with adulterated goods. And you have no power?—Mr. Thomas: None.—Mr. Jeffreys: You should have power.—Mr. Thomas: You



can't compel them. If they don't want honestly to carry out the Acts they won't do it.—Mr. Jeffreys: But you can enforce the Public Health Acts.—Mr. Thomas: That is a different thing. To issue an order for a village to be drained is a very different matter to taking samples.—Mr. Jeffreys: Then we understand that it is not more analysts that are wanted, but more officials to take samples.—Mr. Thomas: I don't know that more officials are wanted.—Replying to questions from other members Mr. Thomas said to carry out the Acts did not cost the authorities much. If special officers were appointed solely to take samples, the difficulty arising from their getting known would be increased. The police took samples, but they went in plain clothes, and frequently the man deputed to take samples in a district was sent from another part of the country.—Mr. Jeffreys: Milk may be of poor quality and yet come direct from the cow.—Mr. Thomas: That was a point I emphasised on Tuesday.—Mr. Jeffreys: I don't think you did. You seemed to suggest that the farmer made it up with water.—Mr. Thomas: My point was that there was more temptation to adulteration in hot weather.—Mr. Jeffreys: Do the Board keep count of how many cases of adulteration have been detected in the article as it comes straight from the farmers?—Mr. Thomas: The reports do not distinguish.—Mr. Jeffreys: Are you aware that the greatest number of cases occur amongst shopkeepers.—Mr. Thomas: Yes, I am aware of that.—Mr. Jeffreys proceeded to call into question the reason for the fewness of the samples taken in transit and suggested that local authorities did not think it advisable to do so because there were so very few adulterations.—Mr. Thomas did not think the facts warranted the suggestion.—Mr. Jeffreys: Does the Board take cognisance of the milk which comes to us from abroad as a paste, and has skimmed milk added to it?—Mr. Thomas could not say it had ever come under his notice.—Mr. Frye: Does not condensed milk contain sugar, and would it therefore be possible to sell it as fresh milk?—Mr. Jeffreys: In reference to the suggestion you have mentioned that margarine should be coloured differently, are you aware that margarine is coloured at the present time? Mr. Thomas: Yes.—Mr. Jeffreys: Then it would be reasonable that an Act should be passed to prevent it being coloured at all.—The Chairman intervened with a suggestion that the question was not a suitable one to put to the witness.—Mr. Jeffreys remarked that in a Danish Act colouring was prohibited.—Mr. Kearley: Perhaps you are aware that butter is coloured sometimes?—Mr. Thomas: I was not aware of it.—Mr. Jeffreys: Respecting coffee, you say it is very often adulterated with 70 or 80 per cent. of chicory. What is the duty upon coffee coming into this country?—Mr. Thomas could not say.—Mr. Frye: Three-halfpence per pound.—Mr. Jeffreys: But chicory comes in free?—Mr. Frye: No, it pays the same duty.—Sir Charles Cameron asked if it was a fact that the Somerset House milk standard was made known to the analysts?—The Chairman, however, intervened and ruled that the question must be deferred and put to scientific witnesses.—Sir Charles Cameron: Is there not a complaint that it should be somebody's duty to inform the analysts of any new adulteration?—Mr. Thomas believed that representations of that kind had been made. At present it was nobody's duty to make known such information.—Sir Charles Cameron pointed out that the Customs Authorities had powers with respect to margarine similar to those they possessed for the examination of tea.—Mr. Thomas did not know whether, or how, those powers were used. The Local Government Board received no reports of examinations other than of tea.—Sir Charles Cameron said at a public meeting he heard an allegation that a certain trader found himself subjected to unfair competition by sellers of margarine in the neighbourhood in which his business was situate. His own salesman wished to neglect to comply with the law, but he (the trader) insisted that the Act should be obeyed. He complained to the Authorities about the other shops, but no notice was taken. Had the Board any power in such a case?—Mr. Thomas: No. Replying to further questions by Sir Charles Cameron, he said very little action had been taken under that part of the act relating to noxious ingredients. There was the necessity of proving guilty knowledge, and also there would be some difficulty in showing what was noxious. He saw a case, which occurred in France, in which it was decided that soda, when used for the purpose of extracting fat, was a poison. The appointments of analysts had to be sanctioned by the Board, and they had occasionally vetoed appointments.—Sir Charles Cameron: Do you make inquiries regarding every analyst appointed, or do you take it for granted unless some objection is brought to your notice?—Mr. Thomas: Oh, no; the qualifications are very rigidly scrutinised. It is not done as a matter of course, nor are the Board's objections founded on complaint.—Sir Charles Cameron: No doubt you are aware that the Society of Analysts demand that there should be some higher standard of qualification required?—Mr. Thomas: I know they have done so.—Sir Charles Cameron: Has it been brought to your notice that there are objections to one person holding office both as medical officer of health and public analyst?—Mr. Thomas: I have heard that.—Sir Charles Cameron: But the Board do not debar medical officers of health from being appointed analysts also?—Mr. Thomas: No, and as there is no legal bar it is doubtful whether the Board would do so. The matter has been brought to the attention of the Board. I will not express any opinion as to the most advisable course, but I think the Board's view would be that the statute which says they shall satisfy themselves of his qualifications does not empower them to say the holding of any office shall bar him if his qualifications are good.—Sir Charles Cameron: Have any cases

been brought to your knowledge of analyses made by assistants being produced in prosecutions?—Mr. Thomas: I have no knowledge of any.—Sir Charles Cameron: Is there any rule as to the acceptance or rejection of analyses not made by the analyst?—Mr. Thomas: It is a matter that would depend upon circumstances.—Sir Charles Cameron: You mentioned the adulteration of pepper on Tuesday. At a public meeting a spice merchant mentioned a case in which a very large quantity of pepper dust was put up for sale in the market. In the meantime it was found to contain only 2 per cent. of pepper. He brought the matter to the notice of the medical officer of health of the district, but the pepper was sold. Is there any machinery by which such a case could be reached? Is there any machinery by which such a mass could be stopped from being sold, or could be reached at the fountain-head—the manufacturers?—Mr. Thomas: There is no statutory power.—Mr. Kearley: There is no power of inspection at the port of entry, and it could only be touched at the retail shop.—Sir Charles Cameron: That is a flaw in the Acts which should be remedied.—Mr. Thomas: I don't know whether, in view of the many uses to which pepper may be put, the man should be called upon to destroy it all. Don't you think it more desirable that its sale to the retailer should be prevented?—Mr. Kearley remarked that in Clause 8 of the Margarine Act the Customs had the power of inspection, and it would be impossible for adulterated tea to be brought into the country. If those provisions existed with regard to pepper, that mentioned by Sir Charles Cameron would have been liable for confiscation.—The Chairman: The question has been asked if the Local Government Board have collected any information as to the procedure in other countries. Do not the Board obtain information from the Foreign Office from time to time?—Mr. Thomas: To a certain extent.—Mr. Frye: You said something about the adulteration of sugar, can you describe it?—Mr. Thomas: I was under the impression it had practically vanished. It has, so far as reports go.—Mr. Frye asked if the witness could explain how it was that some inspectors in London were continually visiting respectable shops, but missing others where 24oz. to the pound and other like inducements were offered, and where the probabilities of adulterated articles were great?—Mr. Thomas could say nothing more than that it was a matter of the control of the Inspector by the Local Authority.—Mr. Colman: Have you any knowledge of the highest salary which is paid to an analyst?—Mr. Thomas: No.—Mr. Colman:—Would it be possible for us to have a return?—Mr. Thomas: It might be possible, but it might be misleading. A good many are paid per sample.—Mr. Colman: Would it not be a guide to the Committee as to what the salary should be in the future? There might be a scale, according to the size of the districts. Continuing, Mr. Colman expressed an opinion that when an analyst made a mistake, either he or the prosecuting authority should remunerate the defendant beyond payment of the costs. Proceeding, he asked: Would there be any difficulty in your obtaining information as to what the laws are about margarine in other countries?—Mr. Thomas: I should not think so.—Mr. Colman: If the Committee thought it desirable in what way could it be done?—Mr. Thomas: You could apply to the Foreign Office to get all this information.

(To be continued.)

## CORRESPONDENCE.

To the Editor of FOOD AND SANITATION.

### EXHAUSTED GINGER.

July 13th, 1894.

DEAR SIR,—In a recent issue of your paper reference is made to a case at Gateshead-on-Tyne, in which a grocer had been summoned for selling ground ginger said to contain exhausted ginger, and this he alleged to have bought as our ginger through a local wholesale firm. About a year ago we supplied the firm in question with ground ginger packed in tins covered over with our usual wrappers and labels, and although the ginger was ground from Cochín ginger in its original state we had not any of the bulk left that we could get analysed. After some delay, however, we received from our buyers several tins taken from the parcel in question, and one of these (with the wrappers and labels intact, showing that the tin was returned to us in exactly the same state as we sent it out) we sent to Drs. Redwood and Hailes, the well-known analysts, for analysis, and we now inclose their certificate of the purity of its contents. We regret we could not get this in time for the trial which took place on May 31st, which you will note is the date of the certificate. We certainly have never used spent or exhausted ginger in any of our ground gingers, and we trust you will do us the justice of thus explaining matters.—We are, dear sir, yours truly,

W. AND C. PANTIN.

147, Upper Thames-street, London.

The certificate is as follows:—

May 31st, 1894.

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The above figures are in our experience consistent with genuine ground ginger.

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## Food and Sanitation.

SATURDAY, JULY 28TH, 1894.

### THINGS IN GENERAL.

#### THE "GROCER" AND MR. BANNISTER'S EVIDENCE.

AN advocate who is indiscreet, and who adds to that indiscretion a lack of knowledge of the subject about which he writes, must prove in the end not only dangerous but embarrassing. "For a considerable time, despite our exposures of the analytical incompetence of Somerset House—as illustrated in the de-natured snuff frauds, in which Government scientific blundering caused the rebate to be paid twice over to the extent of many thousands of pounds—and of their incapacity to analyse butter, milk, or indeed any article of food, accurately, the *Grocer* has persisted in treating the department as being in the condition Byron once ascribed to Rowland's Macassar Oil, that is, possessing all the virtues. If the *Grocer* knew anything about foods, its laudations of Mr. Bannister might have done that gentleman some good, although we consider it must be rather nauseating, even to the recipient of the encomiums, to find that the laudation is not even invested with artistic merit, but is done vulgarly and laid on in heavy trowelfuls.

It is rather hard, however, upon Mr. Bannister that his one admirer in the press should have brought down upon his head the wrath of the Irish butter factors by reporting him as having said that butter adulterated with foreign fats came, some from France, and some, more largely, from Ireland. (The *Grocer*, page 67.) From all sides denials of this statement have been hurled at Mr. Bannister, and it was well that an opportunity was given for that gentleman to explain that he did not say the places from which butter adulterated with foreign fat came principally were France and Ireland; what he said was France and Holland. He had never seen any adulteration of Irish butter with foreign fat. In frankness we are bound to say that, scant as is our opinion of Mr. Bannister's knowledge of adulteration, we do not credit him with being so ignorant as his advocate the *Grocer* made him out to be. We only know one paper that has so little knowledge of butter and its adulteration as to make such a statement, that adulterated butter came largely from Ireland, namely, the *Grocer*. Still, the statement Mr. Bannister did make is a rather surprising one. Has he ever heard, we wonder, of Hamburg butters? If he has not we would recommend him to devote a little study to these, when he would find that although it is alleged that "In matters of commerce the fault of the Dutch is giving too little and asking too much," so far as mixing margarine with butter, and selling it to English wholesale dealers as pure butter is concerned, the Dutch compared with the Germans give us a great deal less of the adulteration than their Hamburg rivals do.

In an article entitled "Lessons for Retailers," on page 140 of the *Grocer*, July 21st, our contemporary says:—"With reference to the analysts' comments on the case, it is worthy of note that one of the first analytical authorities in the country, Mr. R. Bannister, Deputy Principal of the Somerset House Laboratory, said before the Select Committee on Adulteration, on Wednesday, that there

are no means of detecting wood acid in vinegar, and yet we find public analysts giving certificates stating that certain samples contain wood acid." In its zeal, laudable or otherwise, to give Mr. Bannister a puff, our contemporary has, we fear, impaled Mr. Bannister upon the horns of a very awkward dilemma. In a certificate produced at the Sheffield Police-court on June 29th, from Somerset House, and signed by Mr. Bannister and Mr. Lewin, these Somerset House—out of kindness we will stoop to call—analysts say, "We are of opinion that this vinegar has been prepared by mixing products derived from the fermentation of malt and sugar with acetic acid obtained by the destructive distillation of wood." In that same certificate Mr. Bannister declared that from the results of his analysis he concluded that vinegar contained 25 per cent. of wood acid.

We have here Mr. Bannister, on June 29th of this year, declaring that a vinegar contains 25 per cent. of wood acid, and, on the 18th of July following, informing the Select Committee on Food Products Adulteration in the House of Commons, in reply to a question by Mr. Kearley, that there are no means of detecting wood acid in vinegar. We do not agree with the *Grocer* that Mr. Bannister is one of the first analytical authorities in the country. On the contrary, as we have repeatedly shown, he is one of the last. Perhaps he can explain how it happens that he can allege the existence of 25 per cent. of wood acid in a certificate to be used in court against that of a public analyst, and, almost in the same breath, inform the House of Commons Committee that there exist no means of detecting wood acid in vinegar.

The *Grocer* also might be invited to explain how it comes to publish the untruth that the magistrates at Chichester allowed Professor Attfield's costs to the defendant when the facts are quite the contrary. The court did not allow Professor Attfield's costs to the defendant, but, on the other hand, decided that the defendant should pay the costs of Mr. Hehner, the public analyst. We have repeatedly pointed out how dangerous a paper the *Grocer* is, and if any justification was needed for our warnings, these instances of absolute ignorance and misstatement on the part of the *Grocer* should be ample proof of the worthless character of any advice it gives.

#### WATER IN IRISH BUTTER.

At Ennis Petty Sessions on the 18th Sergeant John McHugh, Inspector under the Food and Drugs Act, had Patrick Gilligan, of Roxboro, Willbrook, Corofin, summoned for selling butter on June 23rd, which on analysis by Sir Charles Cameron was found to be adulterated with 20·4 per cent. of water. Defendant, who was not professionally represented, denied that he had any intention whatever to defraud. His wife was ill and unable to make butter, and a neighbouring woman made it for him. He was fined 10s. 6d. and 3s. 9d. costs. Michael Carney, of Connolly, was summoned for a like offence. The analysis of Sir Charles Cameron declared that the sample contained 18·8 per cent. of water. Mrs. Carney deposed that she made the butter. She could not say how much salt she put into it. Defendant was fined 5s. and costs.

#### TO GET AT THE BOTTOM OF THE PROFITS.

At Fenton, on July 18th, 1894, before H. Wight, Esq., Stipendiary, and G. Hallam, Esq., Thomas Fallows, farmer, Meir-lane, Longton, and Thomas Leadbeater, his servant, were charged by Mr. W. H. Knight, inspector of food and drugs, with selling on May 30th and June 16th an article which was not of the nature and quality demanded; they were further charged with selling milk from which a portion of cream had been abstracted. Mr. E. H. Ashmall defended. Evidence was given that an assistant to the inspector, Mr. Gifford, purchased a halfpennyworth of milk from Leadbeater, who said "this is 'mixed' milk, night's and morning's mixed together." In reply to Mr. Ashmall, the witness said he did not understand that the previous night's milk had been skimmed; there was a label on the can, "Mixed." The county analyst's certificate showed that on May 30th, 40 per cent. of the cream had been abstracted, and 18 per cent. on June 16th. A witness was called who gave evidence that on the date named she bought milk from the defendants which she paid for as new milk, and which was delivered to her from the can bearing the label "Mixed." Mr. Ashmall for the defence submitted it was well known that Fallows sold 'night' milk 'skimmed,' and morning new milk mixed together; his client had been round to all his customers since his prosecution in September and explained to them.—The Stipendiary, after two hours' hearing, said the defendant Fallows was absolutely robbing the public; he had no doubt in his mind it was a most deliberate robbery. It was not the first time he had been charged, and he knew perfectly well the fraud and the way to work it. For the offence May 30th, fine £10; June 16th, £20 and costs. Total £32 15s., and probably they would now begin to get at the profits of this business.



### A MAGNIFICENT BUSINESS.

As an instance of what persons possessing enterprise, with a thorough appreciation of public requirements, can do in the making of a great industry, let us consider the present position of the Bovril Company. A few years ago there was no extract of meat obtainable, the preparations which were offered to the medical profession or the public being trash of the sorriest description, having a chemical composition almost identical with that of urine, and being little more valuable. Indeed, as we have shown by repeated analyses, many of these preparations were practically destitute of any nutriment, possessing in some cases not even as much as 1 per cent.

These conditions offered a magnificent field for enterprise, of which Mr. J. Lawson Johnston, with indomitable energy, availed himself, by offering to the profession and the public an extract containing from 16 to 30 times more real nutriment than the other so-called extracts of meat, and being, at the same time, as valuable in stimulating properties. The result shows that the public are by no means slow to appreciate a good thing. The nett profits for the year ending June 30th, 1894, of the Bovril Company, Limited, are £20,378 14s. 6d., which, after allowing for a dividend of 12 per cent. per annum, free of income tax, for the last half-year, leaves a sum of £9,000 to be carried to the reserve fund; increasing that fund to £20,000—a result upon which the directors and staff of the company are entitled to cordially congratulate themselves. The extreme success and the secure position which this industry has obtained, not only in the United Kingdom, but throughout the world, might readily be achieved with other and different industries were a similar energy and desire to meet public requirements manifested. Let us take, for example,

### IRELAND'S WASTED OPPORTUNITY.

At present an enormous quantity of margarine and of butter mixtures is sent to us from Holland. The oleo oil from which this margarine is manufactured has to be brought from America to Rotterdam, is there manufactured into margarine, and sent from thence to Ireland, England, and Scotland. This fact furnishes a striking illustration of Ireland's wasted opportunities. This oleo oil could be landed at Queenstown at a cheaper rate than at Rotterdam; labour in Ireland can be obtained possibly cheaper than in Holland; whilst the quality of the milk in the districts round Cork is immeasurably superior in richness and in every respect to that of Holland. There is a quick and regular steamboat traffic between Cork and Liverpool, and the markets in the immense industrial districts of Lancashire and Yorkshire are as open—we might say would be even more open to margarine produced in Ireland than they would be to that made in Holland, inasmuch as it can be offered to the trade at a cheaper rate, by the saving of handling and freightage, whilst, considering the superior quality of the Irish milk, it should be of a much better character.

The argument might be adduced against such an industry being established in Ireland that it would injure the character of, or tend to throw doubt upon the Irish butter. The fact that some 16,000,000 lbs. of margarine are manufactured yearly in Denmark does not, however, seem to cause the public to doubt the purity of Danish butter. Nor does the fact that immense importations of margarine are made into French butter-making districts seem to lead the public to suspect that there is anything suspicious about Brittany butter. It is only one of those chimeras of the imagination common to the weak-minded and the irresolute. We repeat, there is an enormous opportunity for developing an immense industry in Ireland in this article of food, and Irish patriots would show a much greater intelligence if, instead of abusing margarine, they would do as other nations have done and use it to the advantage of the people of Ireland.

### DANISH BUTTER.

ACCORDING to the *Monde Economique* the butter production of Denmark is, like Maid Marian, still growing, the exports last year having increased from 68,000,000 lbs. to 72,000,000. The method by which Danish butter has been puffed into fame in England affords an object lesson which should be taken to heart by all who, like ourselves, lament that so much English money that ought to be spent at home for English and Irish produce should go to Denmark. The Danish Government had the sense years ago to send the most pertinacious, pushing, "stir it and stump it, blow the Danish butter trumpet," young man that could be found in Denmark to, by hook or by crook, in season and out of season, impress upon the English people that there was no butter so pure as Danish. By untiring efforts, assisted by the fatuous ignorance of the bulk of our daily and weekly newspapers, the claims of Danish butter to absolute purity were every day placed before the public in different forms. A few prosecutions here and there, instituted by the Danish commissioner, assisted this advertising movement, and, at the smallest of costs as compared with the results, the reputation of Danish butter has been firmly established in England as being absolutely above suspicion.

For our part, we do not believe it to be above suspicion, although we are bound to admit that in our efforts hitherto to detect adulteration in Danish butters we have been unsuccessful. That however is no proof, any more than are the allegations of the Danes themselves that Danish butter is not adulterated. The Danish butter producers know quite as well as we do that what Mr. Bannister admitted to the House of Commons Committee the

other day,—namely that at least 16 per cent. of margarine can be put into butter without any possibility of it being detected—is an absolute fact; and being possessed as they are of this knowledge and the absolute assurance they can mix quite up to this extent of margarine with their butters without any possibility of the fraud being detected, we for our part refuse to believe that the Danes are so supremely honest that they would not avail themselves of this means of getting an extra profit of some 6s. to 8s. per cwt., when they know that there is no possibility of the fraud being discovered. Our suspicions are strengthened by the fact that there has been an enormous increase in recent years in the manufacture and importation of margarine into Denmark. It is alleged, of course, that this is for native consumption, and that the Danes content themselves with margarine in order that they may send us the butter. Such may be the fact; for our part we very much doubt the truth of the statement. If Mr. Herbert Gardner, Mr. T. H. Elliott, and the other gentry who now play at doing public work at the Board of Agriculture, would spend the money the Treasury have allotted for their new agricultural journal in paying one or two of our most capable butter experts to spend six or 12 months in investigating the subject of butter adulteration, we have a strong belief that the result would be the discovery of methods of detecting even percentages of foreign fat as low as 5 per cent. It might even be found that Denmark's boast of absolute purity is merely so much bunkum. Unhappily, however, it is very unlikely that Mr. Gardner or Mr. Elliott would ever be guilty of causing the Board of Agriculture to do anything half so sensible as this.

### IRISH BUTTER

As we have said elsewhere, it would delight us to see the money that now goes to Denmark, Germany, Brittany, Holland, and elsewhere, for butter, spent in England and Ireland. It affords us great gratification, therefore, to notice that our efforts in suppressing the frauds in Hamburg and other butters, and in causing the Food and Drugs Acts to be enforced, have had the best of all possible effects upon the quality of Irish butter. The impetus our exposures have given the Adulteration Acts have given a chance in our markets for first-class home-made butters, and Ireland, although somewhat slowly, is awakening to this fact and to the benefits it can derive therefrom. In 1891 the creameries and butter factories in Ireland numbered only 152; last year they numbered 200 and employed over 3,533 persons. A further cause of satisfaction is found in the fact that merchants in Manchester have noticed that there has been a great improvement in the quality of butter received from Ireland during the past year. If our newspapers would cry stinking fish less and not lend themselves to the puffing of Danish and Brittany butters, as they have so foolishly been doing in the past, and recognise that it is not a crime but common-sense and sound policy to advocate the use of, and demonstrate the excellent quality of, our native product, we should not see the imports of butter from abroad increasing as they are, but, on the contrary we should see a great increase in the use of the home-made article. It is not fantastical demands that a healthy, useful article like margarine should be coloured an obnoxious tint that will do English and Irish butter producers any good. It is the determination and the capacity to use the opportunities they already possess and of which so little advantage has been hitherto taken.

### A TALL MILK STORY.

A CINCINNATI chemist is said to make artificial milk. It is a combination of water, solids, and fat that is equal to the finest milk. It is in reality chemically pure milk, and is of course free from all taint of disease that cow milk has. This chemical milk will raise a cream, will sour, turn to curd and water, and butter and cheese can be made from it the same as from cow milk. At present the cost of production is more than one dollar a gallon, but the chemist believes with a few more experiments he can reduce the price to 10 cents to 15 cents a gallon, and by making it in wholesale quantities can retail it at the usual 6 cents a quart. It will be but a short time, according to this, till the "dry feed dairy" will disappear from the milk waggons, to be replaced with "chemically pure milk—made from distilled water and the purest fats." Next!!!

### ARMAGH COUNTY ANALYST'S REPORT.

MR. J. F. W. HODGES reports:—Since last assizes I have received only 21 samples for examination under the Food and Drugs Act. Of these 11 samples were forwarded by Sergeant John Donnellan of Armagh, and 10 by Sergeant John O'Grady of Lurgan. The samples consisted of three rums, nine buttermilks, one coffee, two sweetmilks, two butter, three whiskies, and one tea. One of the samples of buttermilk forwarded by Sergeant Donnellan was adulterated by the addition of water. One sample of whiskey forwarded by the same inspector was reduced by an addition of water below the standard allowed by the Act. I have also to report that since the last assizes I have examined one sample of water taken from the town pump, Moira, and reported favourably on it. I have also examined two samples of water for the Portadown Town Commissioners; one of the samples I condemned as being unsuitable for a town supply. The other was an inferior water, but might be used if no better source of supply could be obtained.



## THE BRITISH INSTITUTE OF PUBLIC HEALTH AND MR. ERNEST HART.

THERE has been a great pother made by Mr. Ernest Hart, of the *British Medical Journal* and a few of his friends, in which they, no doubt, expected the public would take a keen interest; but the public are not always in a gudgeon-like, greedy, feeding humour, and in a mood to swallow highly-seasoned nonsense, and the result of the attempt to injure the British Institute of Public Health's Congress must be very mortifying to the *British Medical Journal's* editor and his friends. The British Institute of Public Health had a perfect right to object to their Congress, in so far as certain sections of it were concerned, being utilised for the *Ad majorem, Hart gloriam*, and they had an equal right to suggest that under the circumstances it would be much more satisfactory to those concerned with the Congress if Mr. Ernest Hart would see the desirability of resigning. That Mr. Ernest Hart's relations by marriage and otherwise have also resigned, may or may not be foolish, but is what might have been expected. We, however, fail to perceive why this storm in a teacup amongst the Hart family should have been obtruded as it has upon public attention.

It led Sir Charles Cameron, M.P., who is doubtless a very well meaning, and in some respects presentable, member of Parliament, to write a very indignant letter repudiating the use of his name in connection with the Congress—which caused him to occupy a position supremely ridiculous, inasmuch as he assumed an importance which he did not possess, as his name was neither used nor asked. The Sir Chas. Cameron for whom he thus ridiculously mistook himself is Sir Chas. A. Cameron, the distinguished medical officer of health for Dublin, and public analyst, whose attention has, fortunately for the public, been devoted to sanitation in place of rubbishy politics. If the *British Medical Journal* editor's storm in a teacup was responsible for Sir Chas. Cameron, M.P., occupying this absurd position, the M.P. has little cause to thank his friend, the *British Medical Journal's* editor.

But the *British Medical Journal* has for some time furnished cause for grave surprise. Our readers will not forget its very ignorant statements respecting beer; and the Government has taken occasion this week to give it the lie direct with respect to its sensational disclosures about the immoralities practised in certain massage establishments, and its alleged police raids upon the same.

### COFFEE WITHOUT ANY COFFEE.

MR. WARD, Inspector for North Wilts, succeeded in discovering and bringing before the attention of the Swindon magistrates, on the 19th, what we suppose must be one of the most curious samples of coffee ever purchased. It was bought from a Mr. E. Jones, a grocer of Milton House, New Swindon, and the public analyst, Mr. J. W. Gatehouse, said, "I am of opinion that the said sample contained 95 per cent. of added chicory. It was very difficult to detect any coffee whatever in the sample. Much of it contained no trace of coffee." A tin of the substance was produced and the label read: "Best French coffee, prepared expressly by the London Joint Stock Coffee Company (prepared in England), as used on the Continent, and wherever coffee is largely consumed. The fine flavour of this delicious coffee is produced by a special process of roasting, and is retained with a judicious admixture of the proportion of a patent prepared Hambro chicory at a certain stage of its manufacture." It was sold at the rate of 1s. per lb. For the defence it was stated that the public taste demanded this mixture of coffee and chicory, as did also the nature of the Swindon water, which was very hard. Our own opinion is that the water would have a very hard task indeed to extract any coffee from this substance. The magistrates were apparently of the same opinion, as they imposed a fine of 10s. and £1 12s. costs. Perhaps some of our readers can inform us who the London Joint Stock Coffee Company are?

### DANGEROUS TINNED FOODS.

AT Liverpool, on July 18th, Kertland Mole was fined 20s. and costs for selling a bottle of haricot beans which contained compounds of copper equivalent to upwards of 2½ grains of crystallised sulphate of copper in each tin.

## A CIVIL LIST PENSION FOR DR. ARTHUR HILL HASSALL'S WIDOW.

IN recognition of the eminent services of the late Dr. Arthur Hill Hassall, well known for his labours in connection with various questions concerning public health, Lord Rosebery has granted Mrs. Hassall a pension of £50 per annum from the Civil List. Dr. Hassall, who was for many years physician, and ultimately senior physician, to the Royal Free Hospital, in 1850 made an exhaustive microscopical examination of the water supplied to the Metropolis, showing the extremely imperfect character of the system of filtration then employed, and he was engaged in important investigations in connection with the cholera epidemic of 1853-54; the results being communicated to the General Board of Health in a series of elaborate reports. Dr. Hassall was the first to use the microscope on a large scale in the detection of adulteration; and his memorable exposures (first published in 1851-54, in "The Lancet," as the Reports of the Analytical Sanitary Commission of that journal, and afterwards, separately, in "Food and Its Adulterations" and other important works) of the serious and widespread sophistications to which nearly all articles of food and drugs were subject, undoubtedly led to the legislation for the repression of adulteration. Dr. Hassall was also the founder of the Royal National Hospital for Consumption and Diseases of the Chest, at Ventnor, Isle of Wight, one of the most valuable institutions of the kind in the country. An important feature of the Ventnor Hospital is its erection upon the separate principle, each patient having a separate bedroom; and the ten blocks of houses, with the chapel in the centre of the range, are situated in one of the most beautiful and sheltered parts of the Undercliff. It has been decided recently to place in the large hall of the institution a memorial to the founder, consisting of a portrait of Dr. Hassall, to whose thought and indefatigable exertions the Hospital owes its existence.

Dr. Hassall was the author of various important contributions to medical literature, of a standard work on "British Freshwater Algæ," and of several widely-read books on San Remo, the health-resort where he latterly resided. He did much useful and original work in other directions too numerous to mention here. His last book, an autobiography, "The Narrative of a Busy Life," was published only in September last.

### MORE SUGAR PROSECUTIONS.

BEFORE the Swindon magistrates recently, William Mervyn Gosling, summoned by Mr. James William Ward for selling as Demerara sugar a substance which was all dyed crystals. It was stated that there was some amount of injurious matter in the dye. The magistrates here accepted the excuse that the sugar had been sold in mistake and dismissed the case. These artificial Demeraras seem to be a going it, for at Bristol, on July 18th, Charlotte Tucker, of 17, Denmark-street, St. Augustine's, was summoned for selling as Demerara sugar an article which consisted of sugar crystals artificially dyed with a coal-tar colour, and was not of the nature, substance, and quality of the article demanded. Inspector Geo. London gave evidence as to purchasing a pound of Demerara sugar from the defendant on June 21st, but the accused in defence stated that it was explained to the inspector at the time that it was not pure Demerara. A witness corroborated this statement. The bench gave the defendant the benefit of the doubt, and with a warning dismissed the case.

### ADULTERATION AT LOWESTOFT.

DURING 1893 there were 27 samples taken for analysis in Lowestoft, namely, 8 milk, 3 lard, 10 butter, 5 ale, and 1 whiskey. One milk was found to be adulterated and one of the butters; the rest were all genuine. As Lowestoft is supposed to contain a population of from 24,000, the number is fairly representative of the Local Government Board's recommendation. We are rather surprised, however, at the small percentage of adulteration. It would be interesting to know whether the samples were taken by the inspector personally—in which case, of course, shopkeepers visited would be perfectly well aware of the object for which the samples were required, and, as is always found to be the case, would take steps to supply the inspector with only genuine articles—or whether the purchases were made by deputy.

**HORLICK'S**  
**MALTED**  
**For Infants**  
**and Invalids.** **MILK**  
**CONTAINS PURE MILK, WHEAT AND BARLEY MALT.**  
**NUTRITIOUS, DIGESTIBLE. GUARANTEED ABSOLUTELY PURE.**  
**OF ALL CHEMISTS AND STORES.**  
**SAMPLES FREE. 39, SNOW HILL, E.C.**



## THE ROGUE'S MARCH.

It should of course be the duty of the adulteration department of the Local Government Board or of the pretended food analysts at Somerset House to give Food and Drugs Act inspectors, public analysts, and traders tips as to new and ingenious frauds; but as neither of these Departments know anything about the question, the exposure of roguery in food, drugs, and drink was left to chance, and was nobody's business until we grappled the questions. To our excellently edited American contemporary, *The National Druggist*, we are indebted for the following side lights upon some new swindles.

"Not the least instructive and entertaining departments of our foreign exchanges are those columns devoted to a record of the patents granted. In looking over these we frequently strike upon patents for processes for the manufacture of articles or materials which can be used only in the preparation of fraud, and not infrequently this very object is announced in the patent in the most unblushing manner. Such, for instance, is a process recently patented in Germany for treating green coffee with soda or potash, 'by which means' to quote the specifications, 'the said coffee gains 5 per cent. in weight in the process of roasting.' The sole object, then, of this patent, is to add to the weight of the roasted coffee, without in any manner increasing its intrinsic value, and thus swindle the purchaser by making him pay for 5 per cent. of inert (or worse) matter.

"Another patented process, in the same line, is for treating the hulls of the coffee beans and stems of the coffee plant to obtain an extract which serves for impregnating inert material to be mixed with roasted coffee, and thus increase the weight of the latter. The specification of this patent names also the hulls of the cacao as material suitable for making this extract.

"Still another patent in this direction is one for the production of so-called 'coffeinite,' of which, according to the specification, '3 litres are to be poured over 50 kilos (100 pounds) of coffee. The grains swell, and from three to four days later one more litre of coffeinite is to be added.' The grains when subsequently roasted are treated with sugar, or a patent *glasure*, which gives very inferior coffee the appearance of being first-class. This process adds 10 per cent. to the weight.

"And so we might go on, taking patents for falsifying other articles of food as illustrations of the evil. Here is one for a substance to add to milk. The specification describes it as a 'Process for emulsifying fats to be used in enriching milk, or for any other purpose, and consists in beating up the fats, which may be of vegetable or animal origin, with a solution of gelatin, and of extending the solution in such manner that it may be made to contain any given quantity of fatty matter. Such a solution may be mixed with milk without the separation of the fatty matter.'

"The *Moniteur Scientifique*, in noting a similar patent, says:—'One scarcely knows at which to be the most indignant, the impudence of the patentees, or the moral obliquity of the Government granting the patent, and thus lending official consecration to frauds so reprehensible as these.'

"The fact that the Government provides safeguards against the use of these patents, in the shape of police regulations, public analysis, etc., is no palliation of the offence, but rather an aggravation of it. It says, in other words, to the patentee, 'you must not use this patented article on our own people; but you are at liberty to sell it to all outsiders, and we will protect you in your rights as a discoverer and manufacturer'—*Caveat emptor*, let the buyer look out for himself and his own interests—which is the business motto of the rogue and swindler the world over.

## PURE BEER.

How to help on the pure beer movement and benefit English barley and hop growing is a question in which every well-wisher of agriculture is interested. A suggestion that has a great deal to recommend it, inasmuch as it would be a step in the direction of public honesty, has been made that there should be a pledge taken by members of the Central and Associated Chambers of Agriculture, and of the Agricultural Union which Lord Winchelsea has done so much to advance, that they will decline to deal with any publicans who are not prepared to guarantee that the beer they vend is the product of malt and hops, and is not made from rice, sugar, or other foreign substances. This proposition has, as we have said, a great deal to recommend it, inasmuch as it would benefit, by a substantial increase of trade, the honest brewer and publican who is anxious to serve his customers with a pure article, and it would soon cause the vendor of "swipes" to return to the paths of honesty, by the fact that it would be only by his so doing that he could keep his customers.

## MORE ADULTERATED VINEGAR.

Emily Tillington, Redcliffe, was summoned for selling through her servant, Rose Davis, vinegar which consisted of diluted acetic acid, and colouring matter, and was not of the nature, substance, and quality of the article demanded. Inspector Thompson said that on Saturday, June 16th, he purchased a pint and a half of vinegar at the defendant's shop, which, on being analysed, was found to be impure vinegar. When he informed them that he was a police inspector, they at once said that it was not pure vinegar. The defendant asserted that this was told him before the purchase was made, but the bench considered the case proved, and imposed a fine of ten shillings and costs.

## GOODALL, BACKHOUSE, & CO. v. THE BIRMINGHAM VINEGAR BREWERY CO.

### AN INJUNCTION GRANTED.

MR. JUSTICE STIRLING gave judgment, on the 24th, in the case of Powell v. the Birmingham Vinegar Brewery Company. This was a motion to restrain the defendant company from passing off sauce called "Yorkshire Relish," manufactured by them, as the sauce called "Yorkshire Relish," manufactured by the plaintiff, who represented the firm of Goodall, Backhouse, and Co., of Leeds.

His Lordship said that from the evidence it appeared that the plaintiffs for upwards of thirty-four years had manufactured and sold sauce under the name of "Yorkshire Relish." In 1884 the words were registered as to trade mark, and the result had been that up to November last, with the exception of the plaintiffs, no other "Yorkshire Relish" had been on the market. In 1893 proceedings were taken by the defendant company to have the words "Yorkshire Relish" removed from the register as a trade mark, which proceeding, on the decision of the House of Lords, proved successful. After this decision, the defendants placed on the market a sauce, calling it "Yorkshire Relish," in consequence of which an action was brought by the plaintiff, and this motion was to restrain the defendants pending the trial of the action. Defendants' sauce was sold in bottles with labels on them, which labels do not in general appearance resemble the plaintiff's, but contained the words "Yorkshire Relish" in large letters and the name of the defendants' company. The defendants' sauce had been analysed, and there was found to be a great difference between it and the plaintiff's sauce. Several dealers had made affidavits, one being by Mr. Blackwell, of Crosse and Blackwell, in which he said that so far as his trade experience went anyone asking for "Yorkshire Relish" expected to get Goodall, Backhouse, and Company's, and persons seeing "Yorkshire Relish" on labels would take it for plaintiff's manufacture. Other affidavits were made to the same effect. An affidavit by a Mr. George Crowfield, of Ashton, Birmingham, was also put in, in which he said he did not agree that any one asking for "Yorkshire Relish" would expect to get that manufactured by the plaintiff's firm. His Lordship said that from the evidence it appeared that up to the time the defendants' "Yorkshire Relish" came on to the market dealers knew that it was manufactured by the plaintiff, and relied on it being so. It was probable most of the consumers knew nothing of the manufacturers, but when ordering they expected to get the same sauce as they had been accustomed to buy. If the sauce manufactured by the defendants was identical with that manufactured by the plaintiff probably they would be entitled to use the words "Yorkshire Relish," but as the sauce was different, the use of the words were misleading and likely to deceive purchasers, who would probably think they were buying the sauce manufactured by plaintiff. In his opinion, therefore, the plaintiff was entitled to an injunction until the trial of the action, the costs to be the costs in the action.

## DERBYSHIRE v. NOTTINGHAMSHIRE.

It being an axiom that however far other journals may stray in the way of errors, FOOD AND SANITATION must be like Caesar's wife, "above suspicion," we here take sackcloth and wrap ourselves therein as with a garment, and sprinkle ashes upon our erring heads, for did we not, on page 229 last week, wrong at the same time Derbyshire and Nottinghamshire Nupkinses by saying:—"The encouragement Nottingham magistrates give to adulteration was again illustrated at Ripley Petty Sessions on July 16th. Benjamin Clark, of Padley Hall Farm, was summoned by Captain Sandys for milk containing 16 per cent. of added water. The defendant said that he thought some diluted milk prepared for the cows had got mixed with the new milk by mistake, which apparently quite satisfied the Nupkinses upon the Bench, as they promptly dismissed the case. It is absurd to suppose that county councils or inspectors can enforce the Acts when magistrates in this manner deliberately stultify their work."

The sentiment we stand by, but as to its application, alas! we cannot, for Ripley is in Derbyshire, so bring us out, eke a Somerset House and Local Government Board trumpet, that we may blow a mighty blast, proclaiming far and near that FOOD AND SANITATION hath for once lapsed into error. We would offer even apologies to the Nottinghamshire beaks, were it not that magisterial turpitude everywhere justifies the strictures. Is it not a fact that because one gallant magistrate knew a gallant M.P. who was a large shareholder in a firm prosecuted for a very flagrant adulteration, the gallant magistrate obliged by passing a eulogy from the bench upon his friend's firm; and might not even magisterial encouragement of fraud to the extent of this have occurred in Nottinghamshire. Certes, and so mote it have been; wherefore we keep what we have left of our apologetic breath to cool our porridge; being satisfied that, like the school-boy who was whipped in error, they will earn the censure to-morrow if they have not done so to-day.

MR. J. FALCONER KING, city analyst, has been appointed public analyst under the Sale of Food and Drugs Act for the first district of Inverness-shire.



### A CHARGE OF ADULTERATING LARD AT SWANSEA.

AT the Swansea county police-court, on July 14th, Gilbert Williams, a grocer, of Pontardulais, was charged with having sold adulterated lard. Mr. Owen Leeder defended. The analyst's certificate showed that the lard had been adulterated with 20 per cent. of beef fat. In defence, Mr. Leeder said the lard was sold just as delivered, and was guaranteed by the wholesale dealers as pure, a stamp to that effect being on each cask, though there was no actual warranty on the invoice. He asked the bench to give a decision similar to that of the Merthyr stipendiary, which would leave it for the County Council to decide whether there should be an appeal for a final settlement of the matter. He also asked that the analyst's sample be sent to Somerset House, and an adjournment was granted for this purpose.

### PROTECTING IRISH PRODUCE.

AT Greenwich, on July 18th, Joseph Gibbs, cheesemonger, of High-street, Deptford, and Arthur John Veal, his assistant, were summoned at the instance of the Bacon Curers' Association, for selling a ham to which a false trade description was applied.—Mr. Moore, an inspector of the Association, said that Veal sold him a ham as Irish, whereas it was American. It was weighed by another assistant, named Cooper, and the invoice made out by a lad named Bacon. On behalf of Gibbs, it was contended he was not responsible for the action of his assistants during his absence. Veal said he was very busy at the time, and when Mr. Moore asked him whether the ham at 6½d. per lb. was Irish, he replied in a joke that it was. Bacon said that at the request of Mr. Moore he put "Irish" on the invoice.—Mr. Fenwick told Veal he was liable to a heavy penalty, and fined him £5, and a guinea costs. The summons against Gibbs, as also against Cooper, was withdrawn.

### AN ANALYST APPOINTED TO A POST THAT WAS NOT VACANT.

AT the last meeting of the Armagh Grand Jury the following letter was read:—

Chemical Laboratory, Queen's College.  
Belfast, July 5th, 1894.

To the Grand Jury of the County of Armagh.

Mr. Foreman and Gentlemen—I beg to submit to your consideration the following facts in reference to the appointment of analyst. By a resolution passed at the Spring Assizes I was elected to the position. My name was publicly announced in the Press, and I received 20 samples for analysis, which were duly reported upon. To my great surprise and disappointment, however, I was informed that the Local Government Board would not sanction my appointment, not because of any incompetency on my part, but because "they had not been informed that a vacancy had occurred in consequence of the resignation or removal of the gentleman holding the appointment." I was in fact appointed to a post before it was rendered vacant. I have thus been placed in a most unfortunate position, and it is hardly necessary to state that my professional reputation has been severely injured, especially as a notice of my appointment appeared in the Press. With regard to the question of fees, the amount that I am entitled to for the work sent me by your inspectors is 20 guineas, that is at the rate of one guinea per sample, which is the ordinary analyst's fee. Trusting you will give the matter your favourable consideration, I am yours obediently,

ROBERT F. BLAKE.

On the consideration of the matter it was agreed that, as no fault could be found with Mr. Hodges, he be continued as the county analyst.

### ADULTERATION IN ST. PANCRAS.

A CURIOUS illustration of the manner in which the Food and Drugs Acts are enforced in some districts is given in the report of Dr. Stevenson, Public Analyst for St. Pancras, which states that during the past quarter 83 samples have been analysed, and that these consisted entirely of milk, butter and coffee. Persons practising lard, vinegar, or exhausted ginger swindles, or the scores of other adulterations, must feel gratified to know that they can carry on such with impunity.

### ADULTERATION IN GLOUCESTERSHIRE.

THE select committee on adulteration were treated a fortnight ago to the views of Colonel Curtice Haywood upon milk and butter frauds in this country. A significant evidence of the encouragement magistrates give to adulteration is offered by the action of Messrs. A. Tootel, J. M. C. Pope, W. Butler and Henry Derham, magistrates, in an adulteration case heard at Lawford's Gate Petty Sessions on July 18th. Frank Didham, of Devonshire Dairy, Red Field, St. George, was summoned for milk adulteration. Police constable Brown proved purchasing the milk and handing it to Sergeant Charles Harris, who submitted it to Mr. George Embrey, public analyst for the county. Analysis showed that 35 per cent. of fat had been abstracted. For this offence the bench imposed a fine of 10s. and costs. It is absurd to suppose that Authorities should be desirous of enforcing Acts for the public protection when such an offence as the abstraction of 35 per cent. of fat from milk meets with the ridiculous penalty of 10s. As the Local Government Board recently expressed itself anxious that magistrates should be aroused to a sense of their duty to the public it is not perhaps too much to expect that a remonstrance may be addressed to these gentlemen, and that they should be informed that every instance of similar magisterial incapacity to recognise their duty to the inhabitants will secure them severe public censure.

### ERRATA.

OUR attention has been called to the fact that in our issue of July 14th, in reporting Mr. Preston Thomas's evidence, we stated on page 223 that the number of vinegar samples analysed in 1893 rose to 1,015 in place of 186 in the previous year, and that 10 per cent. were reported against. This is an error, as Mr. Thomas stated that of the 1,015 samples nearly 16 per cent. were reported against, mostly on account of their having been produced from substances other than malt.

### THE JARROW CO-OPERATIVE SOCIETY'S COCOA.

THE *Newcastle Daily Journal* of July 19 says:—"We understand that the appeal in the case Batey v. The Yarrow and Hebburn Co-operative Society, against the decision of the Yarrow Bench and the Durham Quarter Sessions, in the alleged adulterated cocoa case, has been withdrawn."

### CORRESPONDENCE. WHAT IS VINEGAR?

To the Editor of FOOD AND SANITATION.

SIR,—In your issue of the 21st instant you give a report of Mr. A. H. Allen's definition of Malt Vinegar. He says: "It is to be understood vinegar produced by alcoholic and acetous fermentation of malted and unmalted grain." Certainly this definition does require to be "understood." If a hybrid preparation of this description is to be called malt vinegar it would be interesting to hear what name Mr. Allen would give to vinegar brewed from malt.—Yours truly,

VINEGAR.

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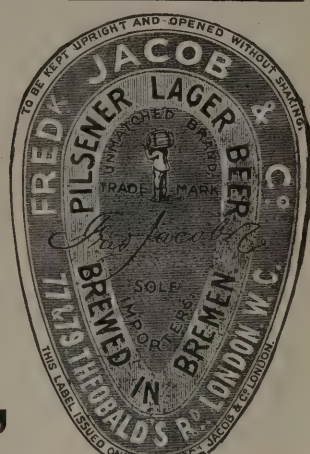
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## THE SWANSEA ANALYST AND HIS SALARY.

THE Swansea County Council has been endeavouring to get the consent of the Local Government Board to terminate the appointment of Dr. W. Morgan, with a view to re-appointing him at a lower salary. On receipt of this request the Local Government Board communicated with Dr. Morgan, and asked him for his observation respecting it. Dr. Morgan, in reply, recapitulated the terms agreed to in 1887, which are at present in force, namely:—“£150 per annum for services rendered under the Food and Drugs Act, based upon 350 samples; 6s. 8d. per sample for all analyses above this number; and £50 per annum for analyses of water and petroleum, and gas testing, based upon 24 samples of water and 10 of petroleum per annum, and a weekly gas test.” “Since the above date,” he says, “no complaint of any kind has been made respecting the manner in which my duties have been performed, neither has the Council made any approach or expressed any desire to discuss the present terms, which were considered to be very favourable to the Council and a final arrangement between us. I was appointed in May, 1874, when the population of Swansea was 60,302 and the area 5,363 acres, and at present the estimated population is 93,864, and the area 5,963 acres. I may add that at Cardiff (which is within the county) about two years ago the Council raised the salary of the analyst from £100 to £250 per annum, and increased the samples from 140 to a minimum of 600 per annum. If it is the desire of the Swansea County Council to increase the usefulness of the Food and Drugs Act, I should be pleased to discuss matters and do all that is reasonable to meet the Council; but I fail to understand why they should apply to your Board to remove me from my office, unless it is to take away that protection which I now have in discharging the duties of a difficult and unpopular appointment, and one which is viewed with antagonism by traders who are likely to be brought under its jurisdiction. Besides, I think it is dealing very unfairly with me after nearly 20 years' faithful service, and having devoted myself to the duties of my office, to act as the Council has done in this case. Inasmuch as the Council has approached you and not recognised me at all, may I ask that your Board will obtain from the Council a statement of the alteration of terms it proposes to make, and I shall be content to leave it to you to decide whether such terms are reasonable or not.”

The Town Clerk, in response to the remarks of Dr. Morgan, says:—“The Council have no wish to dispense with the analyst's services, but they are desirous of altering the terms of his appointment, as fixed in January, 1888. The Council further contend that the present salary paid to the analyst is excessive for the services performed. They are of opinion that the duties of that office might and ought to be re-adjusted so as to ensure a more thorough enforcement of the provisions of the Food Adulteration Acts than at present exists. According to the existing conditions the only samples submitted for analysis are those collected by the inspectors appointed for that purpose. The Council, however, think that every burgess should have the right of submitting articles of food or any drug to the analyst for analysis, the analyst being paid for such services according to a fixed scale of charges to be hereinafter determined. If this course were adopted, the Council believe that many cases of adulteration now undetected might be discovered, and afterwards dealt with accordingly. . . . The Town Council, in moving in this matter, are not actuated by any feeling of antagonism towards Dr. Morgan personally, and they desire to recognise the thorough and efficient manner in which his duties have always been performed. Their motive is to increase the usefulness of the Food and Drugs Act, and they feel that this end cannot be attained unless they are at full liberty to alter the terms of the analyst's appointment.”

The Local Government Board thus dismissed the whole question:—“The Board gather from the letter which Dr. Morgan addressed to them on the 6th November last, that he had had no communication with the Town Council as to any alteration of terms which they would propose as regards his remuneration. If the Town Council desire that the terms of Dr. Morgan's remuneration should be altered, it appears to the Board that the Town Council should, in the first instance, inform him of their proposals, and afford him an opportunity of considering them. At present the Board are of opinion that no sufficient ground has been shown for the removal of Dr. Morgan from his office.”

## FOOD ADULTERATION.

To the Editor of FOOD AND SANITATION.

SIR,—By the advent of the Select Committee of the House of Commons on Food Adulteration we may hope that a new Bill will be drawn with far-reaching skill and equity to replace the inconsistent, weak, and trade-stained clauses of the Acts now in use. Your justifiable persistence in disclosing these defects, and the gross irregularities and incompetency of Somerset House, the neglect of local authorities, and the ignorance and injustice of justices, has been the chief cause of this committee's appointment. Little good will be done by the inquiry unless information is obtained from every useful source, and particularly from the officials entrusted with the working of these Acts. Practice has shown that many alterations are necessary to frustrate the knavish actions of unscrupulous dealers. It is absolutely necessary for the public's protection that the chemical department of Somerset House be “ended or mended.” Its indefinite reports, and the aid they have given to the adulteration of milk, butter, etc., cannot be any longer tolerated. Its chemists have searched Europe for the mythical cow with 10 per cent. total solids, which has been such a boon to dealers for 18 years or more. Although not law-makers, they are the responsible chemical advisers of the Government, and as such their actions have assisted fraud rather than suppressed it. The Society of Public Analysts should have been more business-like and defiant, adopted and worked to a fair standard of their own, and left Somerset House to justify its action. Are not the labours and results obtained by such men as Brown, Escourt, Cassal, Dupre, Vieth, Hill, Fairley, Hehner, and Allen as valuable and correct as those of useless functionaries who have pleasure in retarding every good work? The Margarine Act contains some useful clauses, yet there is room for improvement. One especially should be inserted to counteract the disastrous decision of Justices Cave and Smith in *Crane v. Laurence*. A new Act will have to serve for many years, therefore the errors and omissions of the present one should be removed, if an effectual check is to be given to the scientific frauds now universally practised.

FOOD INSPECTOR.

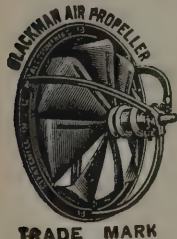
## ADULTERATION IN PLYMOUTH.

MR. W. J. ADDISCOTT, Sanitary Inspector, in his report just issued, says:—“The working of this Act was somewhat interfered with during the third quarter of the year, 1st, owing to the absence of the public analyst; 2nd, by his being laid up with a very serious illness; the year, however, has not been without results, and no one has a greater desire to see the Act enforced than the officer charged with carrying it out. I think the plan suggested by the Worcester County Council that the Board of Trade should appoint travelling inspectors, who should have power to exchange districts and work any part of the country, a good one. For, no matter how vigilant the Local Inspector may be, he is soon known, and served accordingly with the exact article which he demands; this I find is the experience of most towns and also of inspectors. The number of samples procured or purchased by myself was 94, but in addition to this many articles were brought to the office by traders and others who wished to be satisfied as to the quality of articles for which they may be contracting. The samples taken for analysis were, 34 of milk, of which only 17 were genuine, 44 of butter, of which 40 were genuine, and eight of vinegar, all genuine; eight medical prescriptions were submitted for analysis, and were all genuine, it is stated, though more care should have been taken in the dispensing. There were 14 prosecutions taken, and the fines amount to £67 2s. against £50 the previous year.”

## SUGAR IN BEER.

At Preston, on July 14th, John Heys, landlord of the Withy Trees Hotel, Fulwood, near Preston, was summoned for unlawfully mixing 15lb. weight of sugar with 567 gallons of wort and beer to increase the gravity. The prosecution was at the instance of the Inland Revenue Commissioners.—Mr. Blackhurst, who defended, admitted the offence, and said the sugar was added solely with the view of making the beer more palatable.—A fine of £25 to cover costs was inflicted.

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## THE SELECT COMMITTEE ON ADULTERATION.

IV.

(Continued from page 232.)

It is a very long matter, and when you get all these laws it is very difficult to boil them down.—Mr. Colman: We are not going to finish in a few days, so length of time will not trouble us much.—Mr. Frye: Would it be advisable to recommend that the analyst should be appointed as the Medical Officer of Health now is, so that the County Council shall be able to be made responsible for half his salary?—Mr. Thomas: I don't think there would be anything gained by that.—After a few minor questions, the committee adjourned. Paper handed in by Mr. H. Preston-Thomas, July 6th, 1894.

## PROSECUTIONS, 1893.

Article.	Number of Samples Examined as Adulterated.	Number of Proceedings taken.	Number of Cases dismissed.	Number of Cases withdrawn.	Number of Cases only initiated.	Number of Penalties imposed.	Total Penalties (Costs excluded, where separately shown).	d.
Milk	2,310	1,542	152	55	43	1,292	2,914	19 2
Bread and flour	2	1	..	..	..	1	1	0 0
Butter	794	604	29	6	18	551	1,150	1 6
Coffee	214	129	12	1	4	112	138	7 5
Sugar	3	..	..	..	..	..	0	0 0
Mustard	54	23	4	..	1	18	9	3 0
Pepper	21	7	..	..	..	7	7	10 6
Lard	127	94	18	7	10	59	92	10 6
Wine	1	..	..	..	..	..	0	0 0
Spirits	782	552	28	14	43	477	578	9 8
Beer	16	..	..	..	..	..	6	0 0
Drugs, rhubarb	15	16	1	..	1	14	12	14 6
"  nitre	11	5	1	..	1	3	0	13 6
"  saffron	4	1	..	..	..	1	1	0 0
"  liquorice	5	5	3	..	..	2	0	11 0
"  quinine	2	1	..	..	..	1	0	2 6
"  paregoric	12	5	..	..	..	5	5	19 0
"  sulphur	4	1	..	..	..	1	0	10 0
"  sal volatile	2	1	..	..	..	1	0	1 0
Other drugs	30	..	..	..	..	..	0	0 0
Other articles:								
Soda water, etc.	32	18	4	..	..	14	3	15 6
Chewing gum	2	1	..	..	..	1	0	10 0
Jam	2	1	1	..	..	..	0	0 0
Arrowroot	1	1	..	..	..	1	1	0 0
Cocoa	58	22	4	..	..	18	12	17 6
Olive oil	5	6	1	..	1	4	3	15 0
Pressed peas	14	1	..	..	..	1	0	5 0
Ginger	5	2	1	..	..	1	0	10 0
Vinegar	165	97	16	3	4	74	120	3 6
Yeast	20	13	2	..	3	8	2	16 10
Baking powder	43	17	1	1	..	15	13	6 6
Cheese	12	5	1	..	..	4	20	0 0
Sundries	22	2	2	..	..	..	0	0 0
Oatmeal	3	1	..	..	..	1	1	0 0
Total	4,793	3,174	281	77	129	2,687	5,091	12 8

Mr. Richard Bannister called in and examined. Chairman: Will you tell the Committee what position you hold?—I am Deputy Principal of the Government Laboratory.—And you are a Fellow of certain learned societies as well?—Yes, of the Institute of Chemistry, the Chemical Society, the Royal Microscopical Society; and I am on the Council of the Institute of Chemistry.—And you have been a reporter on subjects more or less akin to our inquiry in France, have you not?—Yes; I was in the Paris Exposition in 1889.—And you were also a judge of foods at Chicago in 1893?—I was, and also at the Colonial Exhibition, and at the Health Exhibition.—I believe you have delivered a course of lectures on certain food products?—I have delivered two courses; one on milk, butter, and cheese supply, and the other on sugar, coffee, tea, and cocoa.—And you have had a lengthened experience in the Government laboratory?—I have been there for 31 years.—And in that Government laboratory you receive cases for analysis, or specimens for analysis, from different localities?—Yes; both for our ordinary official work, and also for our work under the Sale of Food and Drugs Act.—Under the 22nd Section of the Sale of Food and Drugs Act?—Yes. If you will allow me I will tell you what we received last year. From the Customs Department we received 2,137 samples; from the Admiralty 73; from the Board of Trade 557; from the India Office 707; from the Post Office 143; from the Home Office 43; from the War Department 18; from the Trinity House 86; from the Stationery Office 4; from the Office of Works, London and Dublin, 33; from the Colonial Office 2; and references from magistrates 71.—That is under the Sale of Food and Drugs Act?—Yes; and parochial samples 15; making together 3,889.—Of which how many were under the Sale of Food and Drugs Act?—71. Then from the Inland Revenue Department we received 12,083 samples of tobacco; beer for estimation of drawback, 9,102; beer duty samples, 8,621; beers from public-houses, 2,820; tinctures 5,575; naphtha 773; miscellaneous 5,392.—What is the total number of samples?—48,255.—I believe you have a table of the number of specimens referred to you under the Sale of Food and Drugs Act from 1875 to 1894?—Yes.—Can you give us a brief analysis of that table?—Yes, I can. Samples of arrowroot 4, beer 5, bread 7, brandy 4, butter 62, carbolic acid 1, coffee 26, cream 1, flour 3, gin 6, ginger 5, ginger beer 1, ketchup 1, lard 23, lemonade 3, laudanum 1, linseed meal 1, magnesia 1, milk 411, mustard 8, sweet nitre 4, oatmeal 13, ointment 1, peas 2, pepper 29, quinine 4, rum 3, soda water 1, tea 3, vinegar 14, water 2, whiskey 28.—total 678.—In those 678 specimens submitted to you, in how many did you agree with the previous analysis?—In the cases of 474.—

And you disagreed in how many?—In the cases of 188; and 16 samples were sent up for a special purpose, which were not sent up under the Sale of Food and Drugs Act strictly.—I notice from this table that you had by far a larger number of milk specimens than of anything else?—Yes, we had 411.—And next to milk came butter?—Yes.—And those were really the two principal articles that were submitted to you?—Exactly.—Will you tell us now with reference to the milk cases; will you give us the analyses of the milk cases that came before you?—In 311 cases we confirmed the decisions of the public analysts, and in 96 we disagreed, which is a percentage of disagreement of 23.5.—So that in not quite a quarter of the cases you disagreed with the public analysts of the country?—Yes.—Could you refer this difference to any particular cause or condition?—I think that the difference is rather more in the interpretation of the results than in the actual mistakes made.—That is to say, that the analyses made by the public analysts were probably correct, but that their interpretation of the analysis differed from yours?—We differed in the conclusions.—In what way would this difference of interpretation arise?—It would arise when we came to the border line between a genuine milk and an adulterated milk, or, as put in another way, between a good milk and a poor milk.—That is to say, that a poor natural milk was occasionally mistaken for adulterated milk?—I think I have not made myself quite clear. It is practically impossible from the analysis of a sample to tell whether it is a poor milk and an adulterated milk, that is to say, whether it has been a good milk adulterated with water or a poor milk.—I quite understand that point. It really comes to this: that a naturally poor milk has been reported as an adulterated milk?—As a rule that is the case.—And that gives rise to the difference between you and the public analysts to a considerable extent?—Mainly.—Mr. Channing: It accounts largely for the 96 cases in which you disagreed?—Yes.—Chairman: Can you tell us whether you have any methods on which you rely for arriving at that conclusion, any special tests?—The process that we use at Somerset House, after trying every process that we have known, or that has come before us, is what is called the maceration process. Could you describe that process for the benefit of the Committee?—Yes, I can. We take three quantities of milk weighing in each about ten grammes. One quantity is for the purpose of estimating the total solids, free ash, and chlorine, and other determinations of a like kind; the other two are for the determination of the solids not fat, and of the fat. These two are dried almost to dryness, and then treated with hot ether under peculiar conditions, under the best conditions that we know from practical experience in getting out the whole of the fat from the solids not fat. When this operation is completed the residue that is left in the platinum dish or dishes, the two residues, are dried, and when dried to the constant weight, that gives us the total weight of the solids not fat. Then the ethereal portion is dried also, and the residue from the ether gives us the fat, so that in our determination we determine the fat and the solids not fat.—Sir Charles Cameron: The fat from one sample, and the solids not fat from the other two?—No, the fact is this: that they are controlling experiments, one for the purpose of controlling the other. We have two residues, and two exhaustions with ether, because we always think it necessary in every case of this kind that we should have a duplicate experiment.—Mr. Kearley: One gives you the total fat?—The two give us the total fat, and the residues give us the solids not fat.—Chairman: That is the process you rely upon for estimating the natural condition of milk?—Exactly.—Then in the examination of a sample there are certain physical conditions which we have to take into consideration as well, and all those conditions, along with the result of the analysis, are taken together for the purpose of forming a conclusion as to whether water has been added or not.—Are you able to arrive at a conclusion with moderate certainty as to whether the milk is a poor milk or a watered milk?—We are not.—That is to say, that you cannot distinguish between a rich milk which has been diluted, and a milk coming from a poorly-fed or old cow?—We cannot.—There are different methods of analysis which give somewhat different results, are there not?—Yes; there are.—Do those results vary widely?—Not if the examination is conducted properly. For instance, if the coil process be used, it will perhaps give an increase of what is called butter fat of perhaps 0.2.—And the different methods of analysis simply give results equivalent to three per cent. of added water?—Somewhere thereabouts.—Mr. Kearley: Do you mean the different analytical methods or the results?—You get the results from the analysis, but the method of analysis will give the results in that way.—The methods adopted by you in this maceration process?—Not only that, but you also find that if there are six or eight operators, if you try any methods of analysis they will differ amongst themselves. I have a paper before me with the results of the examination of certain members of the Society of Public Analysts in 1888, and I find there that in their solids not fat they differ as much as five-tenths of one per cent. amongst themselves; and the fat differs in the like way.—Chairman: You were giving us these figures, which varied to the extent of 3 per cent. according to the method of analysis, and that variation would apply to analyses made by you in your laboratory?—Yes.—You are not referring to the analyses of other people, but to the fact that your methods, the different methods applied by yourself, would give results varying to that amount?—No; I was comparing the difference between the coil method and the maceration method. If our work is properly done, it will not vary to the



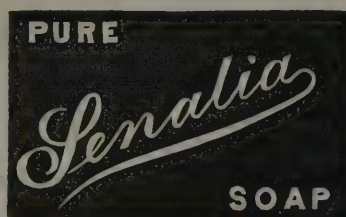
extent of 3 per cent.; but if you use the coil method, and compare it with the maceration method, you may get a variation of 3 per cent.—Mr. Herbert Gardner: Are there any other methods?—There are many methods of analysis, but these two are mainly used for the purpose of making a determination quickly, which in commercial work it is necessary that you should be able to do.—Chairman: The coil method that you have referred to I think you might describe so far as you can for the information of the Committee?—The coil method, as a pure method of milk analysis in getting out the fat, depends upon the degree of fineness in which you can get the solids themselves. It has been found out that if you take a coil of paper of a certain length and coil it on itself in a certain way, that will take up a certain weight of milk. This is allowed to dry, and then that is put into what we call a Soxhlet extractor, treated with ether, and when the fat has been thoroughly separated from the solids not fat, which adhere to the paper, the ether is dried, and the residue is taken and weighed, and that gives the percentage of fat in that particular sample. But there is one inconvenience in connection with this paper coil process: the total solids are not estimated at all; or rather, the total solids are estimated, but solids not fat are just the difference between the fat and the total solids.—So that you rely rather on the maceration method than on the coil method for extreme exactness?—We have tried them side by side, and we have come to the conclusion that the maceration process is the best method. It is a very tedious method.—So that when you have any analysis before you, or when any magistrate has any analysis before him, it is necessary that he should consider the method by which the results have been arrived at?—He ought to do so.—Bearing upon this subject, during the last two or three years you have been making experiments, have you not, with regard to the richness of milk or the poverty of milk?—We have.—We had brought up before us by the last witness some experiments that you made with 273 cows?—That is quite right, I have the results here.—Can you give us a description of that experiment?—We obtained these samples of milk from different parts of the country, and at different times of the year. You will see in the return that everything is given about the feeding of the cows, so that nothing can be said to the effect that the cows were ill-fed; and we sent one of our own reliable assistants down, so that he saw the cows milked out completely, and the milk was always under his supervision until he got the samples, and had brought them to our own laboratory for examination. In that return we give 273 cases of individual cows and also the results of the examination of 55 churns.—Mr. Kearley: Those would be from 55 dairies?—Yes.—Chairman: Would you go on with your description of the experiment in question?—We examined all these samples by the maceration process, and we found that of non-fatty solids the lowest was 7.52, the highest 10.04, and the average 8.90; and so far as the fats are concerned the lowest was 2.43 in two cases, the highest 5.97, and the average 3.99. Then from the 55 churns the lowest was 8.40, the highest 9.70, and the average 8.96; and of the fat solids, the lowest was 2.89, the highest 5.61, and the average 4.00.—Then you found practically that the 55 churns yielded better results than the specimens of milk taken from the cows direct?—Yes, because in the churns were mixed together the poor and the rich, and therefore the average would be better.—That would be the explanation?—Yes, then of those 273 cows we found that 47 cows gave solids not fat under 8.5 per cent., 101 gave solids not fat under 8.8 per cent., and 174 gave solids not fat under 9.0 per cent.—Have you anything more to say about that experiment?—I have taken out the number of cows and heifers that are given in the last agricultural returns as in milk or in calf in the United Kingdom, and I find that the number of cows in milk or in calf in the United Kingdom in the last return was 4,120,451, and if we assume (which I think we fairly can) that these 273 cows are better than the average of cows, the ordinary cows (there is no doubt about it), that would show that of these 4,120,451 there would be about 700,476, or 17 per cent., that would give under 8.5 per cent. of solids not fat.—That is below the standard?—Yes.—What is that standard?—When I am talking of the standard I ought to have a word presently about the difference between the standard and the limit. The standard that we are speaking of, and can call the standard for the present, is 8.5.—8.5 of solids?—Solids not fat. Thirty-seven per cent., or 1,524,566, would give solids not fat below 8.8 per cent., and 2,624,727, or 63.7 per cent., would give of solids not fat below 9.0.—You referred to a standard and a limit just now. Will you just define what you mean?—The difficulty about a standard and a limit arises in this way. Under the Adulteration of Foods Act, 1875, it is laid down distinctly that if you have milk or any other substance from which nothing has been taken away, and to which nothing has been added, however poor, it is genuine. In the case of milk a large quantity has to be sold in towns quite away from the place of production, and we do not know its origin; therefore when we get a sample of milk of low quality, the analysts and ourselves (and I think it is very proper that they should do it) fix a limit, so that if there is any milk that falls below that limit, it is for the person to prove or give conclusive evidence to the satisfaction of the court that water has not been added.—How is that limit fixed?—It has been fixed on the part of the public analysts in this way: That when the Act of 1872 came into force they took the figures of Mr. Wanklyn, and Mr. Wanklyn's figures were 9.0 and 2.5, that is to say, 9.0 of solids not fat, and 2.5 of fat.—Then they adopted that as their limit?—They adopted that as their standard. Then in 1882 it had been found between those two years that by

the method of analysis the solids not fat did not give a constant weight; and so in a paper read before the Society of Public Analysts on the 15th of March, 1882, these facts were brought before the Society: "It can hardly be expected that anything very novel can be brought forward in a subject which has been so well ventilated, and which before all others has engaged the attention of public analysts, as milk analysis. But from some statements which have recently been made before us (see Mr. W. Johnstone's paper in No. 72 of *The Analyst*) and elsewhere, it appears that not a few analysts have forgotten that the results obtained by the analysis of milk are not results laying claim to absolute scientific accuracy, but are only comparative ones, and that the limits adopted by the Society, 9 per cent. of solids not fat, and 2.5 per cent. of fat, hold good only when each analysis is made in the manner which led to the adoption of these limits; namely, by drying five grammes of the milk for two and a half to three hours over an open water-bath, and by exhausting the residue with from three to six successive quantities of boiling ether. Modifications of this plan have gradually crept in, and concurrently with the adoption of these modifications instances have multiplied in which undoubtedly genuine milk did fall below the Society's limits. Although it cannot be held that the deficiency in solids not fat was in every case due to the modification in the analytical process, it yet appears certain that in many instances the cause lay less with the milk than with the analyst." Then the paper goes on, and it is shown distinctly that as soon as ever you dry to a constant weight of 9.0, in which the sugar of milk is present in a crystalline form, it comes down to 8.5, because it is anhydrous, and therefore when the drying is to a constant weight of 8.5 it is equal to the old 9.0.—Mr. Kearley: You have given the increases of solids not fat; would you give the increase of fat?—There is no increase of fat mentioned in the paper, and I shall be able to explain, if necessary, how that has come about.—Chairman: You had better explain that, perhaps?—In going on further with this paper there is no difference at all given in the increase of fat, the fat remains at 2.5.—Mr. Kearley: And the total solids are not diminished?—The solids not fat diminish from 9.0 to 8.5, and the explanation is given in a subsequent paper of Mr. Hehner's; he finds that this is due to the fact that the milk sugar that is naturally present in the milk, when dried only for that time, does not give up its water and crystallisation, but that as soon as it is dried to a constant weight, then water is given up which is equivalent to about five-tenths of 1 per cent.—Chairman: Have you anything more to say about fat?—I have nothing more to say about the fat, because the fat 2.5 remained.—You have mentioned the standard; have you anything to say about limits?—We went carefully over the whole ground. We have made experiments in the meantime and have always dried to a constant weight, and we considered that 8.5 was the point where, if a milk came before us, it was necessary for the vendors to give some explanation about how it was that that milk was so low in solids not fat.—That is the line at which you begin to be suspicious, as it were, of water, and require a proof to be given that there is no water?—Yes, exactly. There is a form of adulteration of milk that is rather common at the present time, and it is a very dangerous one; that is, the addition of separated milk to new milk. There is no difficulty there about the solids not fat, because the solids not fat are increased; you will find that the fat will diminish, but the solids not fat will increase. If you find a sample of milk that will contain perhaps from 9 to 9.2 per cent. of solids not fat and fat about 2.7 or 2.8, it is pretty certain that separated milk has been added to that sample.—You think that that is a common method of adulteration now?—I think there is no doubt about it.—Mr. Fry: What quantity of separated milk is required to bring out those figures?—In bulk do you mean?—Yes?—Ten per cent. might be.—Chairman: Have you anything more to say about milk analysis?—I think I have gone over that ground; there seems to be nothing further necessary in the direct evidence.

(To be Continued.)

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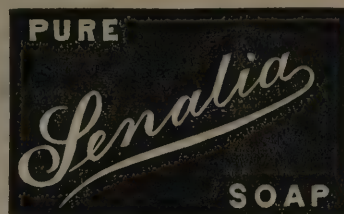
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## Food and Sanitation.

SATURDAY, AUGUST 4TH, 1894.

### SOMERSET HOUSE DEFENDS ITSELF.

A RECENT interview which the representative of the *Chemist and Druggist* had with Mr. Otto Hehner, a past president of the Society of Public Analysts, and a scientist of world-wide reputation, is interesting. It has been our duty in the public interest to expose the scientific incompetence of the Somerset House analysts for the past two years. We are perfectly well aware that, whilst practically every public analyst in the country knows that every stricture we have passed upon the analytical incompetence of the Somerset House Court of Reference is thoroughly well grounded, there has been a disinclination to enter into a conflict with a body of *poseurs* who, unfortunately for the public welfare, may, at any time, sit in judgment upon the certificates of public analysts and, whilst shewing the grossest incompetence, which magistrates unfortunately are not always able to perceive, cast aspersions upon public analysts and do them very grave injuries. There has, therefore, been a hesitancy upon the side of the public analysts themselves to "bell the cat," and whilst, privately, we make no doubt that there is not one public analyst in the country worth mentioning who is not perfectly well aware that every statement we have made in regard to Somerset House, and every searching criticism, has been justified times over, yet the considerations we have mentioned have restrained them from stating publicly the serious nature of the charges they individually feel should be brought against the Somerset House chemical department.

We know it has been urged by hostile critics that our exposures of the Somerset House chemical department's incapacity have been inspired, and are the outcome of personal antipathy. Our answer to this is, that we have never had any dealings of any character with any one of the pseudo scientists at Somerset House; that, personally, we are not acquainted with any one of these gentlemen, and that we fully recognise that, as ordinary citizens, they doubtless are creditable members of society. Our exposures of them have been purely upon public grounds, neither inspired by malice nor by personal antipathy of any character whatever, but solely because we recognise that they are, as we believe ignorantly and unwittingly, the most dangerous enemies that confront to-day England's commercial prosperity. We will pass over what, to our thinking, is the intolerable scandal of Mr. Bannister, the

deputy-principal of that department, who is a referee under the Food and Drugs Act, being himself—or having till lately been—concerned in an official capacity with the sale of food and drugs, as chairman of the Civil Service Stores. No person is allowed to be a public analyst who is concerned with the sale of food and drugs, yet here we have one of the referees concerned himself, personally, in the sale of food and drugs, and another Somerset House referee acting as analyst to the Civil Service Stores, both occupying a position of an utterly indefensible character, inasmuch as, were the Civil Service Stores to be prosecuted for adulteration, and were they to dispute such adulteration, and demand that the sample should be referred to Somerset House as a Court of Reference, that sample would come before the chairman of the Civil Service Stores and another referee, occupying the position of Civil Service Stores' analyst, both persons having a direct financial interest in the trading concern carried on by the parties prosecuted. The mere statement of the fact, in itself, is sufficient to show that it is intolerable that Government employes, who occupy the posts of referees under the Food and Drugs Act, should be permitted to also fill positions which it is impossible to justify.

Mr. Hehner, in the interview we have mentioned with the *Chemist and Druggist's* representative, said of these referees: "Is it fair that the referee should have standards which we are not told of, and should follow processes which have never been openly discussed, and which are known, or believed to be, of doubtful value? A sample of so-called malt vinegar is sent to them; the analyst has certified that 20 per cent. of it was malt vinegar and 80 per cent. was acetic acid, not derived from malt or grain. The referees report that 25 per cent. of it was obtained from wood and 75 per cent. made from malt and sugar. The analyses really supported each other, but the form in which the Somerset House certificate was expressed would lead people who did not understand the matter to suppose there was some great discrepancy. If it had not been for the shrewdness of the prosecuting solicitor the summons would have been dismissed. He was able to explain the certificate, and the magistrate found the vinegar was adulterated."

It has been hitherto found impossible to drag the Somerset House chemists out of the barriers behind which they have entrenched themselves. It was, therefore, an unexpected luxury to find them on Monday last, at the Congress of the British Institute of Public Health, no



longer fighting behind a barricade of Government-protected ignorance, but coming out into the open and having the courage to say a few words in their own defence. The spectacle gave an unwonted interest to the proceedings of the Institute of Public Health, while it showed Somerset House in a more sinister light than we have ever felt it necessary to expose it. Under the presidency of Sir Charles A. Cameron, the President of the Society of Public Analysts, and Medical Officer of Health for Dublin, a discussion took place respecting amendments in the Sale of Food and Drugs Acts. Mr. Hehner, in the course of an exceptionally able address, gave instance upon instance of the enormous damage scientific incompetence at Somerset House had done to English trade and to the public. Unfortunately for the Government pseudo-scientists, two representatives from the Somerset House department were present, one of whom had the hardihood to attempt to defend the discredited department. The pretensions of Somerset House to analyse decomposed milk, the action of Somerset House with respect to water in butter, already exposed in our columns, the fearful and wonderful milk analyses, that have made the Somerset House chemists the laughing stock of the scientific world, were, amidst hilarious laughter, sought to be justified. If our strictures upon this department required any additional evidence to support them we would not have to adduce anything more than the *ad misericordiam* defence by the Somerset House representative on Monday. So feeble was it that, were it not that a stern sense of public duty compels us to notice it, we would, out of pity, allow it to pass into merited oblivion. In a very few moments the defender of Somerset House discovered that he was in a position analogous to that of the Old Bailey malefactor who, having been condemned to death, was led out to execution. Being a hardened ruffian, he had refused all offers of salvation held out to him, but the well-disposed chaplain, not despairing, even to the last, of breaking through his callous infamy and awakening him to better thoughts, addressed him at the moment that he was about to be hurled into eternity with an earnest entreaty that, if he had any doubts of any kind upon his mind he, the chaplain, would be pleased to do his best to afford him consolation. This kindly request seemed to impress the trembling wretch, who turned to the chaplain and, in tones of the greatest anxiety said, "Yes, I 'as got something on my mind. 'Twixt you and me, I don't think this 'ere floor's safe."

One could not help feeling that there was a great similarity between the position occupied by the Somerset House advocate on Monday at the British Institution of Public Health Congress, and that of the unfortunate malefactor whose terrible apprehension we have above recorded. Standing, as he did, to support a system and method of analysis which have over and over again been discredited and shown to be beneath contempt, he was standing on a floor which, by no stretch of the imagination, could be considered to be safe, inasmuch as he was confronted with persons who were not only expert scientists, but who knew what they were talking about. There was little wonder, therefore, that his execution was speedily and efficiently performed. The meeting, despite the impassioned protests of the Somerset House representative, adopted the following resolution:—

"That in the opinion of this joint meeting of the Chemical and Municipal and Parliamentary sections of the Congress on Public Health, the following amendments are required in the Food and Drugs Act:—(1) The modification of the warranty defence in such a way as to ensure the punishment of the real offender. (2) The appointment of some adequate official scientific authority for the fixing of milk and other standards, and for the investigation of analytical methods. (3) The registration of itinerant vendors, and further provisions for sampling goods in transit. (4) The requirements of clear and legible labelling of mixtures or impoverished goods. (5) The clear inclusion in the term food of such articles

as baking powders, which, under the law as at present construed, may be so made and sold as to injure the health of the public."

Against clause 1, asking for the modification of the warranty defence, Mr. M. Henry, editor of *FOOD AND SANITATION*, proposed an amendment, asking for the absolute abolition of the warranty. This was duly seconded by a representative from the Lambeth Vestry, and stoutly supported. To the deep regret of a large number of those present, Sir Charles A. Cameron, whose sense of hearing up to this point appeared to be in excellent condition, was seized with a sudden auricular attack which, for some inscrutable reason, prevented him hearing that the amendment had been seconded, and putting it in its proper place before the meeting. The consequence was that the resolution in question was carried. As it was, however, explained that the modification of the warranty was not meant at all to support the principle of a warranty, but was only a roundabout way of getting at the same thing as the amendment demanded, Sir Charles Cameron's sudden seizure may after all not have been of a harmful character.

## THINGS IN GENERAL.

### PURE ITALIAN WINES.

IN the public interest it would be very desirable if some analyses were made of alleged "Pure Italian Wines." Chianti, for example, should be one of the cheapest, and certainly should be one of the most popular, wines on the English market, if it were possible to obtain it of the same quality as in Italy, but the character of the Chiantis Barolos Lacrima Christis offered as Italian wines to the English consumer is so fearful and wonderful that many we have recently seen would pass excellently well for execrable vinegar. Really first-class Italian wines have much to recommend them, and it is a great pity that so much trash of the character we mention should be on the market, and be largely advertised, as it leads consumers to form an absolutely unwarranted opinion as to the real character of Italian wines.

### IMPORTANT WARRANTY CASE.

LINDSAY (APPELLANT) V. ROOK (RESPONDENT.)

THIS was a case stated by justices for the city of Manchester, and was heard in the High Court on July 31st. An information was preferred by Andrew Thomas Rook (the respondent) against Mary Lindsay (the appellant) under section 6 of the Sale of Food and Drugs Act, 1875, for selling to the prejudice of the purchaser a certain article of food—to wit, malt vinegar—which was not of the nature, substance, and quality of the article demanded by such purchaser, contrary to the form of the statute. Upon the hearing of the said information the facts proved, so far as they are material to this report, were as follows:—That the appellant was a provision dealer at 7, New York-street, Chorlton-upon-Medlock, in the city of Manchester, and that one Thomas Holland on September 19th, 1893, applied to the appellant for a "pint of malt vinegar," and was supplied by the appellant from a cask in the shop which had on it a red-coloured printed label bearing the words, "Vinegar warranted unadulterated—Grimble and Co. (Limited), Cumberland-market, London"; that the vinegar so sold by the appellant was invoiced to her as "Grimble's vinegar," and the cask supplied contained on its end the red-coloured printed label above referred to; that the vinegar sold by the appellant was pure malt vinegar, but that it contained 30 per cent. of added water, such addition being an ingredient not injurious to health, and having been made by Grimble and Co., the brewers and makers thereof, because the same addition was required for the production and preparation of the said vinegar as an article of commerce in order that the same might be sold at a low price. The appellant contended (*inter alia*) that, having purchased the article invoiced to her as aforesaid, and with the label before mentioned upon the cask in which it was contained, and sold it in the same state in which she had purchased it, it was within the protection of section 25 of the Food and Drugs Act, 1875, and that such a label and invoice amounted to a written warranty within the meaning of the Act. The magistrates held that the appellant was not within the protection of section 25 of the said Act and convicted the appellant. The question for the opinion of the Court material to this report was "whether the invoice containing the description of the article as 'cask Grimble,' with the label on the cask containing the words 'Vinegar warranted unadulterated, Grimble and Co. (Limited), Cumberland-market, London,' constituted a warranty within the meaning of section 25 of the said Act."—Mr. A. T. Lawrence appeared for the appellant.—Mr. R. Brown, for the respondent, submitted that there was no such warranty as required by the Act. He cited "Rook v. Hopley" (3 Ex. Div., 209), "*Chas. v. May*" (12 Q.B.D., 97), and "Farmers and Cleveland Dairy Company v. Stevenson" (60 L.J., M.C., 70).—The Court upheld the conviction, holding that there was a warranty within the meaning of the section.—Conviction quashed.



### THE MALT VINEGAR PUZZLE.

AT the York Police-court, on July 30, before Mr. H. Tennant and Mr. H. W. Empson, Job Ayres, grocer, Petergate, was summoned for an offence under the Food and Drugs Act. The Town Clerk appeared to prosecute and Mr Neal, Sheffield, was for the defence. The Town Clerk said the charge brought against Mr. Ayres was that on the 31st of May he sold to Mr. Jonathan Atkinson, inspector for York under the Food and Drugs Act, as and for pure malt vinegar, an article which was something else. The evidence of the analyst he should call before them would be to the effect that the article submitted to him by Mr. Atkinson, being the article which he purchased at Mr. Ayres' shop, was not malt vinegar; that it contained only 60 per cent. of malt vinegar, and that the rest was diluted and coloured acetic acid. The price paid for the article was 2d. per pint, which malt vinegar would be worth, but acetic acid was worth only 2d. or 3d. per gallon, so that they would see there was fraud.—Mr. J. Atkinson said he went to Mr. Ayres' shop and asked him for a pint of malt vinegar. He gave him a pitcher, which he handed to an assistant, who fetched the vinegar. He informed Mr. Ayres that he was going to have it analysed, and he (Mr. Ayres) said he would find it all right.

Mr. James Baynes said he had had many years' experience as a public analyst under the Food and Drugs Act. He received a sample of vinegar from Mr. Atkinson, which he analysed, and found that there was not more than 60 per cent of malt vinegar present in the liquid, the other portions being diluted acetic acid. In cross-examination, witness gave details of the analysis. Acetic acid was a basis of vinegar. Pure acetic acid was the same whether derived from malt, wood, sugar, or German spirit, and its source could not be chemically or analytically distinguished. The adulteration in this case was acetic acid from a source other than malt and he based his judgment chiefly on the low phosphates present. If a skilful manufacturer removed the phosphates and nitrogenous matter which he knew to deteriorate its keeping properties from malt vinegar it would not cease to be malt vinegar. After a long cross-examination on technical analytical details, Mr. Neal said the magistrates saw that they differed on a difficult technical subject, and he asked that the Court might have the analysis of Somerset House. He had a gentleman there who would give evidence exactly opposite to that of Mr. Baynes, and he asked that they might have the highest authority. He also represented the manufacturers, who stood by their product. The Town Clerk said Mr. Allen, an eminent analyst, would support Mr. Baynes. In a conversation as to the constituents of malt vinegar, Mr. Neal said he contended that it might be made from other grain than barley, and quoted authorities in proof of his argument. Mr. Baynes would not admit that the term malt could be applied to germinated grain other than barley. Witness, in cross-examination, said he based his conclusions on the low amount of phosphoric acids and sulphate of calcium, the low gravity and ash, while the sample was wanting in aroma. Mr. A. H. Allen, analytical chemist, practising in London and Sheffield, defined malt vinegar as a liquid made from malt or a mixture of malted and unmalted grain. He received from Mr. Baynes a sample of so-called malt vinegar, which he subjected to analysis. From that analysis he came to the conclusion that it was not genuine malt vinegar, but that there were other properties present. There was malt vinegar in its composition, but he estimated it at less than 60 per cent. He came to the conclusion that it was not pure malt vinegar but partly derived from grain converted by means of acid. In reply to Mr. Tennant, witness said they might have a malt vinegar made without barley but from other grain which had been sprouted. The Town Clerk: But this vinegar is outside that definition?—Witness: Yes.

Cross-examined: Witness said he had in June, 1893, written to the manufacturers for samples of their pure malt vinegar, which he believed to be a superior product. He was sorry that the question whether he found the sample to be pure malt vinegar or not had been asked, because he believed it to be confidential. He accepted it as being genuine malt vinegar, but did not find it come up to that definition. Mr. Tennant to Mr. Neal: Do you

suggest that the sample sent in June, 1893, to the witness, was the same kind as that now in question? Mr. Neal: It is exactly the same. (To witness) Well, I will leave that. Witness: You had better. He doubted if the presence of phosphates would make a vinegar a bad keeping vinegar, though he had been told by manufacturers that they adopted a plan to remove some of the phosphoric acid. Mr. Neal said they had to decide whether this vinegar was a commercial malt vinegar or not, and he again suggested that the independent judgment of the Chemical Officers of the Crown at Somerset House should be obtained. Mr. Tennant said the magistrates had heard the evidence for the prosecution, and they would hear the evidence for the defence. Then if they did not like to come to a conclusion they could in their discretion ask for some further information which might be obtained on reference to Somerset House. Mr. Neal said Mr. Ayres, who was the defendant before the Court, had carried on business in the city for many years without the slightest complaint being made. It was only right that he should inform the Court that Mr. Ayres had a written guarantee that the vinegar was genuine malt vinegar. The question they had to determine was whether or not that sample of vinegar was wholly malt vinegar. The three analysts were not in conflict upon their actual figures, but the question was what inferences were to be drawn from those figures. Mr. Baynes had called attention to three points in the analysis to show that the vinegar was not wholly the product of malted and unmalted grain. First the phosphates. He (Mr. Neal) affirmed that they had evidence before the Court that the presence of phosphates in vinegar tended to deteriorate and make it a bad keeping vinegar. The skilful brewer took out that destructive agent, and his clients had laid down extensive machinery and plant, and conducted chemical research, in order to eliminate the phosphoric acid. The next point was the presence of nitrogenous matter in the form of albuminoids, and means were also used for the elimination of that, while the presence of sulphate of calcium was due to its use for cleansing purposes. They had used distilled vinegar not to reduce the quality of the vinegar but to purify it.

Mr. E. Luck, brewer to Messrs. Pott, said his firm were the manufacturers of vinegar to the Government, and the vinegar was taken from the ordinary vats, and was subject to analysis. They had never had a sample returned by the Government analyst. The presence of phosphoric acid in vinegar had a prejudicial effect, and so also had nitrogenous matter, and they eliminated as much as they possibly could, but this was effected by a process which was a trade secret. Their vinegar was made wholly from a mixture of malted and unmalted grain. Witness in cross-examination declined to say if their process of manufacture was or was not an acid process, this being a trade secret.—Mr. Alfred Gordon Salaman said he had devoted much time to the technology of fermentation, and was consulting chemist to many of the largest breweries in the kingdom. He had had many samples from Messrs. Pott, and the analytical results of those were the same as they had before them that day. It was his conviction that the sample was pure malt vinegar. He agreed that the vinegar was low in phosphates as compared with typical analyses of malt vinegar. Phosphates were distinctly deleterious to malt vinegar. He gave a very interesting description of the process of testing by the polariscope, and which showed that sugar had not been used in the manufacture of the vinegar, and after a very careful analysis he came to the conclusion that the vinegar was a genuine malt vinegar.—Cross-examined: If he had relied on the phosphate test as his colleagues had done he should have condemned the vinegar, and now that they knew the phosphates had been taken out, he thought they would adopt the polariscope test.—Mr. Neal said that was the case as far as he could carry it that day, but if it was the pleasure of the Bench he had instructions from Messrs. Pott to bring the highest scientific evidence. He, however, submitted that there was no case.—Mr. Tennant said the Bench were of opinion that the case was a proper one to have thoroughly investigated for the protection of the public and all parties interested. They were also of opinion that they would not be able to convict, and therefore dismissed the case.—The Bench declined to entertain any application for costs.

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## ADULTERATION IN BIRMINGHAM.

DR. ALFRED HILL, the Medical Officer and City Analyst, in his report dated May 31st, states that during the past three months 302 samples were submitted for analysis; milk 114 samples, butter 64, coffee 19, tea 12, sugar 12, lard 12, ground ginger, 11, cream of tartar 6, bicarbonate of soda 6, sal volatile 6, glycerine 6, tincture of rhubarb 6, paregoric 6, mustard 6, white pepper 5, whiskey 5, brandy 4, cheese 2. Of the 114 samples of milk only ten were found to be obviously adulterated, but ten others were of very poor quality, and may, perhaps, have suffered some slight adulteration. Four samples contained an excess of water, two were deficient in fat, and four had been both watered and skimmed. The samples of butter numbered 64, and no less than 13 consisted chiefly of fats which are not found in genuine butter. One sample of coffee contained 70 per cent. of chicory, an article which is much less expensive than coffee. Two samples of tincture of rhubarb were not of the proper quality, one containing too much water and too little saffron; while the other consisted of 82 per cent. of true tincture of rhubarb and 18 per cent. of spirit and water. Three samples of ground ginger were largely composed of ginger which had been previously used and had lost its potency, and one sample of white pepper contained a small amount of powdered olive stone. One of the whiskeys was diluted below the legal limit of strength, and all the six samples of cream of tartar contained traces of lead. Legal proceedings were taken against 22 sellers of adulterated articles. In 19 instances convictions were obtained, the penalties amounting to £50 and the costs to £10 0s. 6d. Three cases were dismissed. The case against a tradesman who had sold milk containing 12 per cent. of water in excess was dismissed owing to the accidental omission of the word "added" on the certificate; and the vendors of a sample of ginger containing 75 per cent. of exhausted vinegar, and a sample of coffee in which there was 70 per cent. of chicory, were acquitted on the ground that no intention to defraud the purchaser was proved! In the two latter instances the magistrates were asked to state a case for a higher court, but refused to do so.

During the year 1893 there was a total of 993 samples submitted for analysis in Birmingham, for a population of 487,897, which shows that Birmingham, at least, recognises that the Local Government Board's recommendation of one sample per 1,000 is far too little for the efficient protection of the public from fraud in food stuffs. The list of articles is exceptionally well varied. They were as follows:—Milk 327 samples; butter 146, bread 73, ale 54, vinegar 48, oatmeal 41, coffee 40, pepper 40, lard 33, sugar confectionery 24, flour 21, cream of tartar 19, mustard 16, cheese 14, saffron 10, bicarbonate of soda 10, whiskey 9, linseed meal 8, paregoric 8, ground ginger 7, precipitated sulphur 7, spirit of nitrous ether 7, arrowroot 6, syrup of tolu 5, tincture of rhubarb 5, oxymel of squills 4, tincture of benzoic acid 4, tartaric acid 4, bicarbonate of potash 3, olive oil 3, powdered rhubarb 3, syrup of squills 2, flowers of sulphur 1, cream 1, sugar 3.

The samples of milk numbered as many as 327, and 19 per cent. of them were adulterated. Of recent years the percentage of adulteration of milk has not varied very much. The adulterated samples last year included 17 to which water had been added; 25 from which cream had been abstracted; and 21 which had been both watered and skimmed. In addition to these samples, 18 others were of suspiciously low quality, though they could not be positively said to be adulterated. One sample of milk contained 26 per cent. of water and 8 per cent. of fat in excess, a considerable quantity of cream having been put in, apparently to hide the adulteration with water; several others were found to contain upwards of 20 per cent. less fat than they should have done, and in one instance the deficiency amounted to as much as 36 per cent. Of the 146 samples handed to me, sixteen, or 11 per cent., were adulterated. This is a smaller percentage than usual. Thirty-three samples of lard and 14 of cheese were analysed, and of these one sample of cheese was found to contain a little lead, all the other samples being genuine. Ninety-four samples of bread and flour were procured, and all of them proved to be unadulterated. The samples of oatmeal and arrowroot were also pure. The condiments and spices numbered 111, and comprised 48 of vinegar, 16 of mustard, 40 of pepper, and 7 of ground ginger. Eight of the vinegars consisted principally of acetic acid; the mustards were all genuine; five peppers were adulterated, four with mineral matter and one with rice starch; and one sample of ground ginger contained no less than 75 per cent. of exhausted ginger. The samples of coffee were all genuine. Ten of the ales contained what must be considered an excess of salt, and one sample of whiskey was diluted sufficiently to reduce it to 38 degrees under proof, or 13 degrees below the legal minimum limit. It is unsatisfactory to find that 26 per cent. of the drugs were not of the proper quality. Thirteen out of 19 samples of cream of tartar, and all the four samples of tartaric acid, contained traces of lead. Two samples of linseed meal were adulterated, one with a little starch and the other with 10 per cent. of starch and foreign vegetable matter, containing mustard husk. One paregoric was adulterated with 50 per cent. of water; one saffron contained 13 per cent. of calendula florets, and another a small amount of mineral matter. One sample of spirit of nitrous ether was double the strength prescribed by the Pharmacopœia, while another was

deficient of 20 per cent. of ethyl nitrite, the active ingredient of the compound. One sample of spirit of tolu was adulterated with 20 per cent. of water; and 2 samples of syrup of rhubarb were not of the quality prescribed by the Pharmacopœia.

Legal proceedings were taken against 49 vendors of adulterated articles, and 42 convictions were obtained, the penalties amounting to £51 8s., and the costs to £21 13s. In three instances the proceedings were adjourned pending the result of an appeal to the High Court of Justice, and no further action was taken. Four cases were dismissed, the vendors in two instances producing a warranty, while an action brought against a chemist, who had sold spirit of nitrous ether with only 20 per cent. of ethyl nitrite in it, was dismissed owing to the mis-spelling of the two latter words on the summons. In many instances the fines inflicted were, in my opinion, altogether too small, amongst them being 5s. and 9s. costs for selling milk with 15 per cent. of added water, and a similar amount for selling margarine as butter. As the profit accruing from such adulteration must be very considerable, it cannot be expected that so small a fine will have any deterrent effect. A dealer who was convicted of selling milk which was deficient of 22 per cent. of the normal amount of fat, appealed to the High Court of Justice against the decision of the magistrates. At the original hearing evidence was given that the milk was from a dairy of twenty-six cows, and that no cream had been taken from it, and the pooriness of the milk was ascribed to the exceptionally dry weather and to the quality of the cows' food. It was contended that, as the pooriness of the milk might arise from natural causes, and as no actual adulteration was proved, the defendant could not be convicted. Objection was also taken to my certificate on the ground that it did not state the actual amounts of the various constituents present in the milk, but merely that it was deficient of 22 per cent. of its fat, and also on the ground that it contained an observation which was not justified; the latter being a general remark that the abstraction of fat from a milk is a fraud and may possibly be injurious to health. At the appeal, a further point was raised that I had not conducted the whole of the analysis myself, but this objection was at once overruled. Mr. Justice Charles and Mr. Justice Wright, in giving judgment, said that the conviction was obviously under Section 6 of the Food and Drugs Act, for selling something which was not of the nature, substance, and quality of the article demanded, and not under Section 9, which makes it illegal to sell an article from which any part has been abstracted. The certificate was valid, although it did not state the actual amount of the various constituents of the milk, and although it contained an unauthorised observation, which should not have been made there. The appeal was accordingly dismissed. An appeal was made to the Court of Quarter Sessions against a conviction for selling as vinegar an article containing 70 per cent. of pyroligneous acid. In this case, the question at issue was not one of law but of fact, the appellant arguing that such a substance, consisting of diluted acetic acid, distilled from wood, came under the term vinegar, and that, therefore, no offence had been committed. After a lengthy hearing, during which the question of what constitutes vinegar was fully discussed, the Recorder dismissed the appeal, holding that the article sold was not entitled to the name of vinegar. In forty-nine instances the vendors of adulterated samples were cautioned by your committee, and in thirty-four cases no action was taken, chiefly because the amount of adulteration was very slight.

Birmingham is exceptionally fortunate in having a medical officer and an inspector so exceptionally zealous in the discharge of their work for the public benefit; 993 samples having been submitted to Dr. Hill for analysis by Mr. Davis, 11 only being presented by private purchasers.

## THE SANITARY INSPECTORS' ASSOCIATION.

THE Annual Summer Meeting of the Association will be held at Ramsgate, by the kind invitation of His Worship the Mayor and the Corporation, on Friday, 17th August.

Members and Inspectors desirous of attending should communicate at once with S. C. Legg, Hon Sec., 117, Powerscroft Road, London, N.E.

The programme is as follows:—

The Worshipful The Mayor of Ramsgate (Alderman Blackburn) will receive the President and Members of the Association in the Large Room of the Royal Hotel, Ramsgate, at 11 a.m., and open the proceedings. The chair will subsequently be taken by the President, Sir B. W. Richardson, M.D., F.R.S. Addresses will be delivered by T. G. Styan, Esq., M.D., Medical Officer of Health, and W. A. Valon, Esq., C.E., Borough Engineer. His Worship the Mayor has also invited the members of the Association to luncheon at the Royal Hotel. The party will afterwards be conducted to the Harbour Works and Improvements, which will be explained by W. A. Valon, Esq., C.E., the Engineer. Upon its conclusion the party will then proceed for a "Trip to Sea," by Steamer Cynthia, returning to Ramsgate about 7 o'clock p.m.—Special cheap fares will be arranged.

MR. CHARLES E. CASSAL, F.I.C., Public Analyst for Kensington and St. George's, Hanover Square, has been elected honorary President of the VIIth (Food) Section of the forthcoming International Congress of Hygiene and Demography at Budapest.



## OLEOMARGARINE AND VEGETABLE LARD.

By H. W. WILEY, CHEMIST OF THE U.S. DEPARTMENT OF AGRICULTURE.

As a distinction between a pure and an adulterated article, take the cases of butter and oleomargarine. Pure butter, for instance, must be clean, sweet, wholesome, and made of the fat of cow's milk, and must contain only a certain proportion of water, curd, and salt. Oleomargarine may be as sweet, clean, and wholesome as the butter mentioned above, yet when sold as butter it is clearly not pure food, but a spurious article.

Again, when the housewife buys lard it is supposed that the article she obtains has been made from the fat of healthy, freshly-slaughtered hogs, carefully selected, and cleaned and rendered in clean kettles or tanks. Cotton-seed oil and beef tallow, in respect of cleanliness, nutritive properties, and wholesomeness, may equal and even excel pure lard, but the admixture of these articles with hog's lard, or their sale as such, without the knowledge of consumers, is clearly a fraud and an adulteration.

**Butter.**—In regard to butter, the character of adulteration is well known. The use of oleomargarine as a butter substitute has been practised for many years. The oleomargarine law, which imposes a tax of two cents a pound on the manufactured product, has not helped to restrict its use, but has rather increased it by giving to the consumer a guarantee of purity. The amount of tax collected on manufactured oleomargarine for the fiscal year ending June 30th, 1892, was 945,675dols., which shows that there were 47,283,750 pounds of oleomargarine manufactured in the United States in twelve months.

The number of retail dealers in oleomargarine increased during the year more than 22 per cent. over the preceding year. The amount of tax paid by retail dealers for the fiscal year ending June 30th, 1891, was 14,629,370dols., and for the fiscal year ending June 30th, 1892, 204,215dols.

The increase in the number of wholesale dealers was nearly 100 per cent. The amount of tax paid by wholesale dealers for the fiscal year ending June 30th, 1891, was 53,191dols. and for the fiscal year ending June 30th, 1892, 106,036dols.

There can be no reasonable objection to the use of oleomargarine; it is clean, wholesome, and digestible. When it is to be kept for a long time before use, as on shipboard or in distant mining camps, it is preferable to butter, because it has but little tendency to become rancid.

**Lard.**—For similar reasons there can be no possible objection to the use of cotton-seed oil as a substitute for lard or when mixed with lard, provided it be sold for what it is. Most of you are familiar with the great fight which was made against the use of the term "pure refined lard," which was the trade name of a mixture of lard stearine with cotton-seed oil. "Pure refined lard," it was claimed, was a term which had been used so long to designate the mixed product that it had become in reality a trade mark, and was, therefore, entitled to respect and protection. In the investigation, which was held before the Congressional committees, it appeared that as to the trade the contention was quite justifiable. Goods sold under that name were understood to be mixed. When, however, the mixed product was offered to the consumer, it was purchased with the idea which the name naturally implied, that an extra fine quality of hog's lard was secured.

All attempts to pass a pure lard bill, modelled on the Oleomargarine Act, have heretofore failed in Congress, but several of the States have prohibited the sale of mixed lard, except when offered under the proper name. Manufacturers have, therefore, been gradually forced to abandon the term "refined lard" when applied to this commodity.

I am of the opinion that many persons would prefer a cooking fat largely of vegetable origin to a pure animal product. To me it seems that some State legislatures have taken a reprehensible course in prohibiting the sale of vegetable oils as a substitute for lard for cooking. The grower of hogs undoubtedly has a right to contend against the sale of vegetable oils as hog fat, but when he pushes his claim still further, and demands that the markets be closed to products as pure and nutritious as his own, he passes beyond the bounds of public support. Every person in the United States who prefers cotton oil to lard should be allowed to purchase his supplies without let or hindrance. Every grower and maker of pure lard has the right to an equally open market, from which every adulterated and mixed lard offered as pure should be rigidly excluded.

For a time, a few years ago, when a popular fad prevailed in favour of nitrogenous foods, the true value of fats to the digestive and nutritive economy was not well appreciated. At the present day this is all changed, and we know how to value a fat properly.

It is, therefore, a matter of no mean importance to protect the public in the use of olive oil instead of cotton oil, of cotton oil instead of lard, and lard instead of a mixture of beef and cotton oil stearine. It is true that cotton oil, when carefully refined, is almost as good a salad dressing as olive oil, but it is very much cheaper, and those who prefer to pay the high price should be secured against fraud. In respect of wholesomeness and digestibility, it would be hard to choose wisely between the two.

One of the great difficulties in securing the enactment of a national pure food bill has been the feeling in cotton-growing regions that such a bill would restrict the market for cotton oil. This is true, if the fraudulent market is meant. By that I mean the surreptitious sale of cotton oil as olive oil and as lard. But

such a bill would not interfere in the least with the legitimate market for the product. Cotton oil, as a food, has such merit of its own as to warrant the belief that it does not require any smuggling to secure for it a wide and rapidly increasing use. The South as well as the North would be the gainer from honest markets for honest foods, and it is a short-sighted policy that leads to a crusade against such legislation as will secure the desired result. It would be a rather unfortunate thing for the whole country should an irrepressible conflict between the *sus* and the *gossypium* keep our inter-state market for ever open to mixed or doubtful fate.

## ARTIFICIAL FRUIT SUGAR.

AMONG the recent chemical discoveries in Germany is a process by which fruit sugar may be manufactured from beet juice, as an improved product specially adapted to certain purposes. The United States Consul at Frankfort thus reports:—

The inventor is Dr. O. Follenius, director of the beet-sugar factories at Hamburg, and at Hattersheim, near Frankfort. His invention has been patented in Germany (No. 35,487) and in some other European countries, but not thus far in the United States. The process consists, apparently, in the inversion of beet sugar at a certain stage of its manufacture by chemical treatment into what is technically designated "Laevulose." ( $C_6H_{12}O_6$ ), which is chemically identical with the natural fruit sugar developed, in greater or less degree, in most kinds of fruit—1.57 per cent. in peaches, 6.26 per cent. in plums, 10.79 per cent. in sweet cherries, and as high as 15 per cent. in some varieties of grapes. Fruit sugar differs, both in taste and chemical composition, from cane sugar, which latter belongs to the second group of saccharine substances, having the formula  $C_{12}H_{22}O_{11}$ .

The artificial fruit sugar manufactured by the Follenius process is a limpid white syrup of great density, containing from 75 to 76 per cent. of sugar, and possessing, among other valuable qualities, a rich, fruity flavour, as of natural fruit sugar, and the capacity to remain fluid and free from granulation for an indefinite period, notwithstanding its high degree of density. It is well known that ordinary white syrup containing 65 per cent. or more of sugar crystallises and forms granular deposits, and when used for preserving fruits often "candies" to such a degree that the preserves have to be recooked to restore the desired smoothness and fluidity. The new artificial fruit sugar, on the contrary, remains smooth and fluid under all conditions.

But the quality which chiefly determines its commercial value is its power to assimilate, develop, and preserve the natural aromatic flavour of the fruit to which it is applied as a preserving material. Confectioners, fruit packers, and skilled housekeepers who have tested it quite extensively during the past year in the preservation of cherries, strawberries, peaches, and various other fruits, pronounce it far superior for such purposes to any other known form of sugar, and cite among its other advantages the fact that it is always ready for use, and eliminates wholly from the factory all incidental processes of dissolving and refining the syrup. Finally, it corrects the tendency, so common in fruits preserved in ordinary sugar, to soften and to assume a crude, sugary flavour, which not only injures the colour and appearance of the preserves, but renders them cloying and disagreeable to the taste.

Although of recent invention, it is largely used in this country for perfecting wines, as well as in the manufacture of fine liqueurs, and is far superior to ordinary sugar for making lemonade or any preparation in which the saccharine principle is brought into contact with the acid juices of fruits. So far as is known, its use has not been extended, even experimentally, to the United States. It is made only at the sugar factory in Hamburg, where it is sold to the trade for 7.14dols. per 100 kilogrammes, which would be equivalent to 3½cents per pound. As the manufacture of beet sugar is assuming important proportions in the United States, and the conservation of fruits in the form of jams, jellies, and preserves of various kinds is already established in Maryland, California, and several other States, the field would seem to be open and ready for a trial of what is here considered a highly practical and important improvement. The first step should be, naturally, to ascertain by actual trial whether the new material possesses all the merits that are claimed for it.

## CONTRACTS FOR DISINFECTANTS.

## IMPORTANT NOTICE!

To Local Boards of Health, Vestries, and Sanitary Authorities generally.

**THE SANITAS COMPANY, LTD.**, beg to give notice that they have reason to believe there are several unprincipled firms who are offering for sale more or less worthless and fraudulent imitations of the well-known "Sanitas" Disinfectants.

The various "Sanitas" Disinfectants are all manufactured by scientific processes which are protected by Letters Patent, and in order to guard against the nefarious practices above referred to, it is respectfully suggested that all contracts for "Sanitas" Disinfectants and Appliances should be entrusted to the Sanitas Company, Ltd., who are the sole manufacturers, or that a stipulation should be made making it obligatory upon contractors to supply the goods in our original sealed packages.

## THE SANITAS COMPANY, LIMITED

(G. T. KINGZETT, F.I.C., F.C.S., Managing Director)

LETCHFORD'S BUILDINGS, THREE COLT LANE, BETHNAL GREEN, LONDON, E.



## WEIGHING PAPER WITH TEA.

THE prosecution brought by the Weights and Measures Department of the Birmingham Corporation against the Bombay Tea Company, Bull-street, Birmingham, on July 10th, has been successful, the Bench imposing a penalty of 10s. and costs. The case presented by Mr. Hugo Young on behalf of the Corporation was that, before beginning to weigh the tea, paper weighing half an ounce was placed on the scale, so that the purchasers of half a lb. of tea only received  $7\frac{1}{2}$  ounces of that article, the remaining  $\frac{1}{2}$  ounce being paper, which was charged for at the rate of tea. A number of witnesses were called to prove that it was the trade custom to charge paper at the price of tea in this manner, but the Bench decided, as aforesaid, to convict. It is probable that the decision will be appealed against as regards the weighing of paper with goods. There is much to be said in justification of the weighing of paper with sugar, inasmuch as the cost of the paper is practically greater than that of the sugar itself, but that argument surely can have no application to tea, where the paper, if weighed with it, is sold at what is practically eight or nine times its value.

## ADULTERATION IN BIRKENHEAD.

THE Chief Inspector, Mr. Wm. Dawson, reports that the samples taken during the year 1893 were:—Butter 24, cheese 1, coffee 7, lard 11, milk 34, vinegar 10, arrowroot 6, sweets 4, mustard 3, pepper 2, sugar 2, brandy 2, whiskey 2, gin 1. Out of the above, 7 samples of butter, 1 of milk, and 2 of vinegar were reported adulterated by the public analyst. Prosecutions were instituted for milk, butter, and vinegar adulteration. The highest penalty imposed was £2; there were four of £1 each; 3 of 10s. each; and one of 5s. and costs. Adulteration thus encouraged by ridiculous fines of this character should be a very profitable business in Birkenhead.

## ADULTERATION IN PLYMOUTH.

MR. CHARLES C. BEAN, the public analyst, reports:—Ninety-one samples were brought for examination during the year by the inspector of food and drugs, of which 17 (18·7 per cent.) were adulterated. They consisted of 33 samples of milk, 43 of butter, 7 of vinegar, 8 of prescriptions. By far the greater part of the adulteration was borne by milk, for of the 33 samples submitted for analysis 15 (45·4 per cent.) were watered to a varying extent, the average amount of added water being 19·6 per cent., and several more were of such a poor and doubtful quality as to leave no moral doubt of their sophistication, although the figures obtained by analysis did not fall below the somewhat low standard hitherto used here for comparison. The Annual Report of the Local Government Board (Food and Drugs Act) states that nearly 14,000 specimens of milk were examined throughout the country by public analysts during 1892, and of these 13·3 per cent. were adulterated; thus Plymouth distinguishes herself by very largely exceeding the average of the United Kingdom; in fact, I am unable to find in the report above-mentioned any district where a systematic examination of the milk supply being undertaken, anything like such a deplorable condition of affairs as exists in this town. It is not always certain, either, that the water used for diluting the milk is of reputable origin; but it certainly increases the hardship of the unfortunate consumers, who are not only deprived of the milk they pay for, but who are deluded into drinking dirty water in its place at the modest charge of 1s. 4d. per gallon. It is interesting to consider for a moment what this milk adulteration costs to Plymouth. In a rough measure one may arrive at it thus: Assuming half the milk sold is adulterated to the extent shown, and also that each person consumes for all purposes a half-pint of milk per diem, then the annual loss to a population of 86,000 is £13,000. This estimate is possibly in excess of what actually occurs; it nevertheless serves to approximately indicate how the consumers' pocket suffers. The harm done to sickly, delicate children and invalids by giving them a watered, skimmed fluid for sound milk is not so easily calculated. Of the 43 samples of butter examined two only were adulterated, or rather contained no butter at all, but consisted entirely of foreign fats. I do not think the amount of adulteration of butter can be fairly judged of from these two cases, for a vendor would be very foolish indeed to supply an inspector whom he knows perfectly well by sight with any but a pure article. As the inspector becomes more widely known, so will adulteration apparently decrease. The other samples were genuine.

## ADULTERATION IN NORFOLK.

MR. FRANCIS SUTTON, public analyst, has reported that the percentage of adulteration found in this country under the new arrangement by which the samples are collected by the police in plain clothes, and out of their own district, amounts to the high figure of 19·14. This is practically 7 per cent. higher than the average for the United Kingdom, as shown by the last report of the Local Government Board. The percentage in each separate quarter works out as follows:—First quarter 21·42, second 14·29, third 17·64, fourth 6·45, fifth 23·69. The bulk of the samples found to be adulterated do not call for special notice, but I regret to find that, owing to lack of care on the part of the prosecuting authority, two flagrant cases escaped punishment, namely, one sample of butter which contained 23½ per cent. of water, and one sample of ground ginger, half of which was only genuine, the remainder being made up with rubbish. Previous to the present

quarter I have never made any examination of drugs, but the police have collected for me in this fifth quarter eight samples of sweet spirits of nitre and five samples of tincture of rhubarb. It was found that two samples of the spirits of nitre were very deficient in strength. After making due allowance for the inevitable deterioration from keeping, etc., one was 50 and the other 75 per cent. below strength, and were practically useless as medicines; one other was of low quality, but not in my opinion calling for prosecution. One sample of tincture of rhubarb was of low quality, but I think it will be sufficient if the police warn the seller as to his future supplies. It is somewhat singular that although nineteen samples of butter were taken during 1893, not one sample was found to contain margarine. Out of ten samples taken in the fifth quarter four were found to contain this foreign fat varying from 20 to 40 per cent.

Mr. Sutton says of the Fertilisers and Feeding Stuffs Act:—"I have to report that during the past quarter only ten samples of manures and feeding stuffs have been sent to me under this Act, and the whole of the samples were fully up to guarantee. There is little doubt that the Act is one which will not be used by farmers to any extent, and this opinion is confirmed by the private reports of several district analysts throughout the kingdom. I have reason to believe that the number examined by me during the six months in which the Act has been in force is larger than any other county, and my total number is only fifteen. The committee will remember that after the first quarter I offered to give an opinion upon the quality of any manure or feeding stuff for 2s. 6d. Ten persons have availed themselves of this offer, but, of course, a mere opinion is not of much value as compared with an actual analysis, and this is especially the case with feeding stuffs, which require the actual proportions of nutritious matter to be known, and which is unfortunately not provided for in the new Act. I have, therefore, now decided to make an estimation of the oil and the albuminoids in any sample of feeding material which may be sent to me by a *bona fide* Norfolk farmer, and report on the same for a prepaid fee of 2s. 6d. I do this because I have no desire to receive the salary given to me without an adequate return. I must, however, reserve to myself the right to determine the number of samples to be examined, and of which I will give due notice in case of necessity."

## THE NEW YORK MEDICAL JOURNAL ON MARGARINE.

THE New York Medical Journal says: "Margarine ('oleo' or artificial butter) of pure quality is regarded as equal to genuine butter in digestibility and nutritive value. This view is further corroborated by the results of prolonged and thorough experiments reported at length in recent communications of the Vienna Imperial Academy of Sciences. For the experiments only pure materials were used for the preparation of the margarine."

## FOOD ADULTERATION IN HACKNEY.

BEFORE Mr. Mead, at North London Police-court, on Friday. Robert King, of Lauriston-road, South Hackney, was summoned by the Hackney Vestry, for selling as coffee a mixture containing 45 per cent. of chicory, without stating the quality, or enclosing it in a wrapper declaring it.—Inspector Punter and his assistant proved the purchase, the latter asking for a quarter of a pound of coffee, and paying 3d. for it.—Mrs. King admitted the offence, but said she did not know she had to declare what shilling coffee was.—Fined 30s.

Thomas Duley, of Well-street, Hackney, was summoned for selling as cocoa an article containing 35 per cent. of added foreign starch. The defendant pleaded guilty, and attributed the fault to his assistant. Cocoa was asked for, and the mixture in question supplied at the rate of a shilling per pound. Pure cocoa he sold at 1s. 10d. per pound. His assistant took the article supplied to the inspector from a tin supplied by Fry's, and which described the contents as chocolate powder.—Mr. Mead: Do Fry's sell adulterated cocoa?—The defendant: No; it is sold as chocolate powder. And if we are asked for shilling cocoa we serve that.—Mr. Mead: And you should tell your customers what you are selling.—Fined 10s.

## THE "DAILY NEWS" ON SOMERSET HOUSE.

THE *Daily News* says:—"Dairymen who are in the habit of diluting their milk with water have found out an ingenious plan of circumventing the public analysts. Under the Act of Parliament they can request that their milk shall be analysed by the chemists at Somerset House, and this they now do. Their object is to gain a little time, for milk quickly begins to ferment, and it is not possible to test with accuracy a decomposed fluid, and say what it consisted of before decomposition set in. Dr. Wynter Blyth instances a recent case of a dealer who sold milk diluted with at least 8 per cent. of water. He appealed to Somerset House, and after a little delay Somerset House declared that there was no evidence of the addition of water, so that the case was dismissed. That he had nevertheless made no mistake in the matter Dr. Blyth is certain, as the milk had been subjected to an independent analysis by Mr. Colwell, who agreed with him. The only way out of the difficulty would be for each sanitary authority to have a freezing chamber, in which reference samples of milk, etc., could be frozen and preserved. Such a chamber would also be found useful for preserving meat supposed to be diseased until the evidence on both sides could be heard by a court of justice."



## THE SELECT COMMITTEE ON ADULTERATION.

## IV.

(Continued from page 240.)

Mr. Whiteley: What do you mean by drying to constant weight?—For drying to constant weight the milk is put over a water-bath, weighed, and we keep weighing it and weighing it till it does not lose any more, and then you are quite certain that all the water is expelled. We call that drying to constant weight.—Chairman: Then, with regard to butter, you have changes taking place in butter ordinarily when it is kept for any length of time, have you not, which makes some difficulty in analysis?—There is very great difficulty in the analysis of butter.—In what way?—Because keeping the butter it gets rancid, and we find that the insoluble fatty acids increase rather largely and the soluble fatty acids diminish; and inasmuch as if the insoluble fatty acids are high the probability is that foreign fats may have been added, it follows as a matter of course that, if you get a fresh butter to which fatty acids within certain limits have been added, the result of the analysis may be the same as the examination of an old butter that is perfectly genuine.—That introduces confusion and causes a difficulty of detection?—Very great difficulty of detection.—Butter was, I think, the next most frequent article submitted to you after milk?—Yes.—And the chief difficulty that you find in the butter analysis is the detection of foreign fat?—Just so.—Is this introduction of foreign fat a comparatively modern mode of adulteration?—It has been in existence now for a considerable time.—In what form is it introduced?—It is rather difficult to say, because there are so many ways of introducing this foreign fat, but very often it is introduced in the form of stearine or margarine.—And consequently what is sold as butter is a mixture of this margarine and butter?—Yes.—During the last two or three years you have had a good many samples of that kind, I suppose?—Yes; either coming under the Sale of Food and Drugs Act, or that we have obtained for our own examination.—Under the Margarine Act?—No, in the open market.—Have you anything to say about the analyses of those samples?—A system of adulteration that seems to me to have come in lately is putting in too much water; that seems the modern way of adulteration; and there is no doubt that during the last few years there has been a considerable increase in the quantity of water present in butter, in particular kinds of butter.—That is the most recent form of adulteration of butter, apart from the adulteration of these foreign fats?—Yes, that which has come under our notice.—The butters that contain an excess of water are very often Irish butters, are they not?—Yes, they are.—And this water has been pressed into them for the purpose of adding to the weight, I suppose?—It has been worked in for the purpose of adding to the weight.—So that a person buys water and butter instead of butter?—Yes.—What is the standard of water in genuine butter?—There is no standard. In fresh butters it will go from about 12 to 14 per cent. But when we come to salt butter it will go up as high as 16 per cent. or a little more; but those samples contain sometimes as much as 24 per cent. Twenty-four per cent. of water?—Yes.—Have efforts been made to obtain judicial decisions with reference to those adulterations?—Yes.—With what result?—Up to the present time the result has been *nil*.—You have had no judicial decisions with reference to these adulterations of butter?—Some little difficulty has cropped up in connection with cases submitted to the magistrates, so that really at the present time we have not had one distinct decision upon that particular point.—Where do the butters come from chiefly that are adulterated with foreign fats, such as margarine?—Some from France and some largely from Holland.—And from Belgium?—Chiefly from Holland.—Mr. Frye: I suppose the water would evaporate after a few days, to a great extent?—No, it will not, because the butter as a rule is in tubs, and you cannot get it out.—Mr. Kilbride: What percentage of water is there in fresh butter?—From 12 to 14 per cent.—Chairman: That is the normal standard?—The best quality of fresh butter. A certain quantity of water is essential in butter?—You cannot make it without.—Mr. Kilbride: In salt butter what did you say the percentage was?—16 per cent.; but in some cases it goes as high as 24 per cent.—Mr. Kearley: Was there no decision given in the Manchester case as to what should be considered an excess of water?—I did not read the case that there was a distinct decision given, because there are other matters mixed up in that particular case.—Chairman: Have you anything to say with reference to the analysis of beer; you have had some specimens of beer, I think, submitted to you?—Perhaps it may be interesting to the committee if I give the number of samples that we examined during the last 10 years.—Yes, if you please?—In 1884 we examined 48 samples distinctly for adulteration; in 1885, 106; in 1886, 1,999; in 1887, 2,630; in 1888, 2,027; in 1889, 948; in 1890, 1,956; in 1891, 3,044; in 1892, 3,026; and in 1893, 2,820; making a total of 17,604.—There is a great variation in some of those years succeeding one another; can you account for the variation?—We began to find in 1884-85 that there was a practice of dilution in the public houses, so we put our detective staff on to this particular kind of adulteration.—Then there was a great fall between 1888 and 1889?—In one year. I cannot account for that unless I look at the documents for the purpose of seeing why it was. The number of samples adulterated were, in 1884, 34; in 1885, 41; in 1886, 624; in 1887, 448; in 1888, 329; in 1889, 275; in 1890, 459; in 1891, 392; in 1892, 620; and in 1893, 498; making a total of 3,720.—And the adulterant

was generally an addition of water?—The adulterants in all cases are either water only, sugar only, or sugar and water together.—And you did not find, as a rule, any other noxious compounds?—We did not find any other noxious compounds in one of the samples.—Mr. Whiteley: Do you call salt an adulterant?—It depends upon the quantity.—Chairman: You did not find an excess of salt in these cases?—We did not find an excess of salt in those cases.—Mr. Kearley: The researches made by your detective staff, and by other people, really were for the purposes of revenue; this was a revenue question; it had nothing to do with the Sale of Food and Drugs Act?—It was quite a revenue question.—Mr. Herbert Gardner: I think you said that when separated milk was added the usual consequence was that the solids not fat were increased, and that the solids fat were reduced?—Yes.—Then I may take it from you, may I not, that it is possible by analysis to know when an adulteration of milk is brought about by the addition of separated milk?—Within certain limits; you cannot say positively when separated milk has been added in a small quantity; and it is a difficult matter to prove it at any time.—But would the same effect which you have said takes place by the addition of separated milk take place by the addition of water?—No.—Then it seems to me obvious that you would be able to tell when separated milk was added rather than water?—There is a very wide difference between being morally certain and being able to prove it in a court.—Can you give the committee any information as to the nutritive value of separated milk?—The nutritive value of separated milk is high; what you want in connection with that is an addition of fat; and it is a capital thing for bone and tissue.—Would it retain its chemical compounds?—Yes; I will give you the constituents of milk, and you will see that at once! This is an average analysis of a cow's milk. This is not separated. I will come to separated milk afterwards. It is an average of about six samples. The fat is 3·81 per cent., the caseine and the albumen 3·20 per cent., the sugar 4·89 per cent., ash 0·74 per cent., and then the difference is water. When we come to separated milk the fat is reduced from 3·81 to about from 0·1 to 0·25 of 1 per cent. There is scarcely any fat present at all. Then, in the other results which I have given you in the case of pure milk, the caseine and sugar would be slightly increased, because the fat has been taken away when the separated milk is added.—Mr. Kearley: Practically all the solids not fat would remain and the fat would disappear?—Yes.—Mr. Herbert Gardner: You told us just now as to the standard or limit which has been arrived at in the case of milk, and I believe it is generally understood that there is a great deal of difficulty in arriving at any standard of milk. Have you any information as to any standard arrived at in Paris and other capitals?—I cannot speak of Paris, but I know that in the State of New York the standard that they have is considerably higher than the standard in this country.—Or in Vienna?—Or in Vienna.—Sir Charles Cameron: Do you know what it is in New York?—I believe it is 9·0, as against over 8·5. The 9·0 is estimated in a different way.—Mr. Channing: Is that the non-fatty solids?—Yes.—And the fat is three per cent.?—Yes.—Mr. Herbert Gardner: You have told us the different kinds of methods of taking the analysis; have you any information as to the method of analysis which is taken in New York, where 1·9 is obtained?—Babcock's method is the chief one. I have a paper here from the United States Board of Agriculture, and this is the statement that they make now about the method of analysis. This paper was read at a meeting of the institute of chemists in 1893 at Chicago, on August 24th, 25th, and 26th. The statement is this: "We have now but two official methods," that is to say, of analysis. "One is the Adams paper-coil method" (that is the one which I have described), "which is given first place, and the other called the alternate method, devised by Mr. Babcock, except that it directs drying in a tube in a current of air. I understand that Mr. Babcock himself has discarded that method, and now uses what I call the cylinder method. I doubt whether the tubes are now used at all. I think it would be well to substitute the proposed method for the other, and I would also suggest that it be given the first place, as I think it a very much better method than the paper coil method." Babcock, in this second method that he speaks of so highly, instead of using the paper coil, uses asbestos, and he says that there is no danger, if you get good asbestos, of the ether taking from it any extractive matter; and that is the method that is now recommended to be used throughout the States.—In your opinion is that as accurate a method as that which you employ here?—We cannot take the solids not fat with it.—A previous witness has told us something about the quality of milk in connection with hot summers. It is stated that an excessive quantity of water is then present; have you anything to say upon that point?—It is a very difficult matter to say what really causes a cow to give poor milk. For instance, Dutch cows will give a poor milk, and you may feed them as well as you like and they will never give a rich milk; it will give a great quantity, but the quality will be poor.—Is it not the fact that milk varies sometimes in richness even on a single farm with the field in which the cows feed?—Yes, and when they are feeding together it varies.—Now I want to ask you some questions about margarine. First of all I should like to ask you whether margarine is also adulterated by the addition usually of a quantity of water in the same way as butter is?—I have not seen it.—Have you any information as to the use of preservatives whether for milk or butter? I believe, for instance, that boracic acid is used in milk and salicylic acid in butter?—I know that boracic acid is used in



butter.—And in milk?—It is used in milk too; boracic acid is better as a preservative; it is more largely used than salicylic acid.—Are those substances deleterious at all?—That is more a medical question than a chemical one.—You can detect their presence by analysis, of course?—Yes.—Now some questions about margarine. You are acquainted with the process by which margarine is manufactured?—Yes.—Margarine, I think, in its purest form is practically refined beef fat, is it not?—It is.—Is it, then, fat of the same nature which exists in milk?—Yes.—It was found, was it not, when oleomargarine was first manufactured, that the oleo contained stearine which solidified on the plates and knives of the customers, and thus seriously prejudiced the sale of oleomargarine as a butter substitute?—Yes.—And to remedy this defect the oleo was churned with milk and oil?—Yes.—Vegetable oils were used?—Yes.—In order to nullify the presence of stearine?—For the purpose of making it assimilate more to the composition of butter.—Mr. Whiteley: Is the stearine not expressed first?—In the oleo-margarine, yes; the stearine is separated from the oleomargarine.—Mr. Herbert Gardner: Is there not a tasteless white oil called "arachis," which is devoid of odour, and which by its liquid condition prevents the solidification of the fat?—I cannot answer that.—You do not know whether it is used in the composition of margarine?—Not in the composition of the margarine that I have gone into. That is not one of the substances used in it.—Are these vegetable oils harmless?—Yes.—Some manufacturers, I believe, with a view of rendering the detection of vegetable oils more difficult, add, do they not, a certain quantity of natural butter to the margarine?—Yes, there is no doubt that they do.—That is in what you would call, I suppose, the best kinds of margarine?—Some of the margarine mixed with butter is a great deal better than bad butter.—Mr. Channing: Is it not necessary in the manipulation and manufacture of margarine to introduce a small proportion of butter in all cases?—Not always; they can sell it without if they like, and they can make it without if they like.—Mr. Herbert Gardner: And margarine which is mixed with butter, what you call the better class of margarine, you say is better than bad butter?—Yes.—I wish to ask you about the inferior sorts of margarine; you are acquainted with them?—I have seen some; there is no doubt that they are made from bad fat; as you can tell from the smell and appearance altogether.—And it is made from mutton and pork fat occasionally?—I think that in 1872 or 1875 Dr. Voelcker, speaking before the Select Committee as to this, said that there was no doubt that some of the fat came from knackers' yards.—Did I rightly understand you to say that you were not acquainted with the vegetable oils that are sometimes used?—Yes, I am.—Then I should like to ask you one or two questions about that. Are you aware that the coarse oils of the coco-cotton plant and the palm are sometimes substituted for the more refined tasteless oil that I pointed to just now, called arachis?—I beg your pardon, I misunderstood the statement. I have examined samples of that particular oil.—And it is commonly used, being a tasteless oil, to conceal the presence of stearine, is it so?—Yes.—But in inferior kinds of margarine coarser oils are used, such as those of the coco-cotton plant and the palm, which are substituted for the finer oils?—And a large quantity of sesame oil is used too.—And these are mixtures that are sold in the market sometimes as butterine-porcine; have you heard of that, or lactine, or cocoa-butter or lardine; have you heard those expressions used?—Yes, I have heard those expressions.—Those represent the inferior kinds of margarine.—Yes.—And those are either mixed with butter or churned with milk, and they make up some of the various compounds sold as margarine as we have heard?—Yes.—What I want to ask you is whether these butters mixed with inferior margarine are deleterious to human health?—There is a very large quantity of margarine used, and I have not heard of anybody being killed by taking it yet; I cannot account for that in any other way than that it is not deleterious. There is no doubt that if the material is sound it is wholesome.—But it is easy for you to detect these substances to which I have referred, by analysis; these mixtures of butter and margarine?—Yes, there is no difficulty when they are present in large quantities; it is only when they come just on the border line, in the same way as in milk, that there is any difficulty, only the margin with butter is a little wider.—What percentage is the lowest that it is possible to detect of animal fat in butter?—It is a very difficult question to answer, because very frequently there are certain substances used with the animal fat for a particular purpose, and on account of the presence of those substances you may detect a very small percentage, when if it depended entirely upon the animal fat you could not detect it; you could not say positively that it was there.—Sir Charles Cameron: Will you explain that last answer a little more?—Certain of these vegetable oils that are used in the manufacture of margarine have distinct chemical reactions, and if they are present, of course, although the margarine is present in small quantity, the presence of this oil assists you in the determination of the presence of fat.—You say that the presence of these oils indicates the presence of fat; but it could not enable you to estimate the percentage of margarine itself, could it?—Very frequently when examining a sample of butter that contains a certain percentage of foreign fat you are quite certain from the analysis that there is something wrong with the butter; that it is either an old butter or something of that kind; and then you may get these indications as you go on in the analysis of samples that determine you, before you come to an end of your examina-

tion, that margarine is really present in a sample of butter.—Mr. Kearley: That the fats are not butter fat?—That a certain quantity of the fat is not butter fat.—Sir Charles Cameron: I suppose, in connection with the Sale of Food and Drugs Act and the Margarine Act every butter that is an admixture is called margarine?—Yes.—No matter what it is mixed with, anything that is manufactured so as to seem to be butter is called margarine?—Yes; it must be called margarine under the Margarine Act.—And for the practical purposes of food analysis I suppose that you have not to go into the minutiae of adulteration provided that you found it adulterated with oils or fats?—The difficulty arises from this fact, that very frequently you may get a butter containing a smaller or larger quantity of foreign fat that is not called margarine; then you have to examine it for the purpose of seeing whether margarine is present in it.—That is the point of your answers about the oils; that the oils indicate adulteration, which of itself even without the animal fat would make the mixture legally margarine.—Exactly.

(To be Continued.)

## CORRESPONDENCE.

### MILK CHURNS AND CARRYING VESSELS.

To the Editor of FOOD AND SANITATION.

July 25th, 1894.

SIR,—A question has arisen in regard to the stamping and verifying of milk churns which are only used for conveying milk from one place to another. In the opinion of certain local authorities, these vessels are measures, but on what ground they make them out to be so I fail to see. The matter is of the greatest importance, and is the more vexatious, inasmuch as the local authority in one area may hold this opinion and endeavour to enforce its application, while the local authority in another may—rightly as I am convinced—have an opposite opinion, and refuse to order or sanction the stamping of these vessels. This leads to complications and confusion when farms are situated in the one district and the dairy in another, as is often the case, and no common authority can decide the question at issue.

I beg through your columns to call the attention of the trade to the subject and to submit the following considerations for the guidance of parties in seeking protection against unjust interference in the carrying on of their business. First. These milk churns are not measures, but are simply carrying vessels for the transport of the milk from the farms to the dairies. The milk, as is well known, is duly measured in stamped and verified measures on arrival, and no quantities in the transactions of business are determined by the nominal capacity of the churns in which the milk is despatched and received. These churns are no more measures than the wooden butts are, any one of which may or may not be quite filled by the farmer, according to the supply from the cows. They are no more measures than egg boxes, butter firkins, beer casks, tins containing paint, printers' ink, icing sugar, or fruit; fish and meat tins are, none of which have yet been selected by any local authority for liability to be stamped. It is certain that, should such a thing be attempted in regard to such vessels the commercial men of the country would not brook such interference for a moment. The dairy trade, however, seems to be indifferent to everything bearing on its common interests, and the same may be said of the farmers of Great Britain. Secondly. These churns could not be used with any accuracy as measures on account of the knocks and bruises to which they are subject in handling from day to day, especially in transit by rail. Any mark or stamp impressed on, or affixed to them, would soon be unreliable as an index or warrant to buyer or seller, on account of the numerous indents to which they are liable. The farmers and the dairymen know this well, and so might anyone who looks into the matter. Thirdly. The public have no possible concern with the quantity which is put by the farmer into the carrying vessel, as this is a transaction between two parties only, and also because the total quantity is otherwise ascertained and verified by stamped measure at the farm and at the dairies; and each subsequent retail transaction in which the public are interested is similarly determined by stamped measures, or should be so according to the Act of Parliament.

I trust that the trade will make its voice heard more effectively and intelligently than is its habit for mutual guidance and protection against the very foolish meddling with which it is peculiarly afflicted. One might well think that those engaged in this great industry had no opinion to offer, or were incapable of expressing one, to judge by the manner in which they allow their rights and interests to be ignored in the imposition of very absurd and intolerable regulations and restrictions, and that each person engaged in this business was too busy driving his own horse and cart to have any regard for those subjects and conditions of common and vital interest to the body to which he belongs. The journals devoted to the intelligence of the trade would also do well to oppose this state of things, and help to formulate a decided policy, and to express the views of the dairy trade in regard to the various regulations and proposals by which they are, or may probably be subjected.—Yours truly,

ALEX LEITCH,  
Secretary and Manager.

The Glasgow Dairy Company, Ltd.,  
8, West Cumberland-street, Glasgow.



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## Food and Sanitation.

SATURDAY, AUGUST 11TH, 1894.

### SOMERSET HOUSE FOOD REFORMS AND THE GREAT MILK SWINDLE.

IT AMOUNTS TO ONE MILLION POUNDS YEARLY IN LONDON ALONE.

In answer to a question put by Mr. Jeffreys, M.P., at the meeting of the Select Committee on Food Products Adulteration on July 18th, 1894, Mr. Bannister said that the standard adopted by Somerset House for milk was 8·5 solids not fat, and 2·75 fat. Mr. Jeffreys asked Mr. Bannister if the Somerset House chemists could detect "when a rich milk is watered down to this standard by the adulteration of water in it." To this Mr. Bannister replied, "We cannot." In another reply to Mr. Jeffreys, who then questioned him as to the capacity of Somerset House chemists to detect milk adulterated with skim milk or separated milk, Mr. Bannister replied, "We cannot quite." This statement of Mr. Bannister will well repay a careful examination in the face of the evidence given on August 1st, to the Select Committee, by Mr. Samuel William Farmer, who is a member of the Wiltshire County Council, and farms upwards of 10,000 acres. Mr. Farmer has 16 different herds of cows, all dairy shorthorns, the number in each herd varying from forty to eighty. He sends his milk to London, mainly to the Aylesbury Dairy Company, at Bayswater, and supplies that firm on an average with 1,500 gallons per day. He is under a contract with that Company that his milk shall contain not less than 3·25 per cent. of fat. In the face of the readiness of the Somerset House chemists to pass as genuine any milk that contains even 2·75 per cent. of fat—here we may say that it is only recently, in consequence of our exposures, that the Somerset House department raised its standard to this figure, it not being very long ago since they would pass, as genuine, any milk containing 2·50 per cent. of fat—Mr. Farmer's evidence is of the greatest possible importance. He stated that he had no difficulty at all in keeping up to the standard of 3·25 exacted by the Aylesbury Dairy Company, and that, as a matter of fact, the average quality of his milk was considerably above that standard. Out of 10,000 churns sent during the past six months, there were only sixteen as low as 3·25 per cent., and the average quality of his milk as supplied to the Aylesbury Dairy Company during the past 6 years was 3·84 per cent. of fat, and 8·92 per cent.

of solids not fat. The highest yearly average was 3·92 of fat, and the lowest 3·80.

In an exceedingly valuable paper supplied to the Select Committee by the Aylesbury Dairy Company—who have done more to benefit dairy farming and to conduce to an accurate knowledge of milk analysis, at their own expense as individuals, than the costly Somerset House department has during the years of its existence had the capacity or the will to do—the company show, from 248,484 analyses of milk made since 1881 in their own laboratory, that average milk would bear an addition of nearly two thirds of its bulk of separated milk without bringing the percentage of fat below the standard which Somerset House, until recently, would pass as genuine; or, in other words, that the Somerset House government chemists practically legalised an average adulteration of 60 per cent. in milk. How this is done is admirably stated in the paper supplied to the Committee by the Aylesbury Dairy Company. They say, "Take, for instance, as an example, average pure milk taken from a number of cows and mixed together, containing say 3·9 per cent. of fat and 8·8 per cent. of solids not fat. (Separated milk contains 0·25 per cent. of fat and 9·2 per cent. of solids, not fat; cream contains say 50 per cent. of fat and 4·7 per cent. of solids not fat.)"

The Aylesbury Dairy Company show how any dishonest milk vendor may take ten gallons of pure milk and six gallons of separated milk making 16 gallons in all, which 16 gallons may be sold as genuine milk under the standard until recently adopted by the Somerset House chemists as genuine.

We wish to bring home to the public the vital significance of these figures. Genuine milk may be bought by the dealers at from 7d. to 8d. per gallon, whilst separated milk costs from 1d. to 1½d. per gallon. In Manchester in 1886 milk adulteration was made the subject of an official inquiry, when it was found that, for a population of 373,000, the value of the milk consumed, calculated at 3½d. per qt., amounted to £310,997. The Local Government Board have stated that the percentage of milk adulteration is about 13 per cent., but this takes no cognisance of the vast number of samples which public analysts are morally satisfied have been adulterated, but which they dare not report to be so for the reasons given by Mr. C. E. Cassal in a report some months ago to the Kensington Vestry. Mr. Cassal said that "nearly 10 per cent. of the samples of milk analysed during the year were inferior—namely, that they had been purposely prepared, so as to be deficient in fat, but only to such an extent as to make it impossible for a public analyst to condemn them as adulterated"—so that the real adulteration of milk in Kensington amounted in place of 13·4 to 23·4.

If we take the Manchester milk supply as an illustration, and assume that the practice above revealed of making 16 gallons of saleable milk out of 10 gallons of pure milk adulterated with 6 gallons of separated milk, prevailed in that city, the swindle would enable the milk vendor to get an illicit profit of 3s. 3d. per 16 gallons, or about 6s. illicit profit on every 20s. worth of milk sold, which would amount to the enormous sum of £93,299 per annum, out of which the people of Manchester would be swindled, were the milk vendors of that city to practise the fraud which Somerset House chemists until quite recently encouraged.

Roughly calculated, on the assumption that the consumption of milk in London would be at the same rate as in Manchester, and that the milk vendors practised this adulteration—as they would be perfectly able to



do, without running any risk whatever, the public of London can be swindled of over £1,000,000 per year. It would perhaps be unfair to assume that the whole of the milk sold in London was, until recently, adulterated to this disreputable, fraud-fostering Somerset House Standard, because there is no doubt whatever that many other firms, as well as the Aylesbury Dairy Company, have not stooped to avail themselves of the opportunities the Somerset House chemists' incompetence gave them of plundering the public. Admitting this, however, and also making allowance for the fact that the Somerset House chemists through our protest have recently raised their standard of fat in milk to 2.75 per cent., a fair calculation of the average quality of milk sold in London, with the average quality of milk from herds as given in the evidence of Mr. Farmer, shows that Londoners at the lowest computation are swindled of about a half a million of money per year by milk adulteration alone.

The Aylesbury Dairy Company deserve the thanks of the whole community for having taken the immense trouble of making these 248,484 analyses at such enormous cost, for they have enabled the Select Committee on Adulteration, and the purchasing public to know with certainty what the average composition of genuine milk is.

Their researches are valuable alike to the farmer and to the consuming public, for if London is swindled of half a million of money per year by milk adulteration alone, how enormous must be the total over the whole of the United Kingdom? If a really capable department for the suppression of adulteration were created, at a cost of even £200,000 per year, it will be seen from the above figures that no public money could be more profitably expended. But what public opprobrium and punishment could be sufficiently severe for the wretched government pseudo analysts at Somerset House, who have by ignorance and obstinacy so terribly injured dairy farmers, and fostered public thievery to the extent of millions of money per year? That is a question that demands an answer.

### THE "PALL MALL" ON DAIRY FARMING IN AUSTRALIA.

THE following letter shows the change which has come over the butter making industry in New South Wales—a flourishing industry, on a system of large production, having developed, apparently from scattered individual effort. In the change, as is always the case, some of the small producers have had to suffer, but there can be little doubt that the industry, as well as the great body of consumers, has benefited as a whole:—

To the EDITOR of the PALL MALL GAZETTE.

Dear Sir,—As a resident of New South Wales for six years, 1884-90, the greater part of which was spent in one of the best dairy farming districts of that colony, I read with interest your correspondent's letter on "Victoria's Convalescence," the mention that "Dairying for export has become a flourishing industry," more particularly attracting my notice; and having during my intimate association with the dairying industry in New South Wales seen the introduction and effect of both the co-operative system of butter-making by means of cream separators and central factories, and the initial attempts at propping up the trade by export to this country, my knowledge of the local results may not be inappropriate. The exportation of butter was inaugurated in Sydney by the South Coast and West Camden Company, which company held almost a monopoly of the agency for the sale of butter and dairy produce generally in New South Wales. It notified the local dairy companies (of one of which I was then secretary) that it intended to make the experiment as a means of relieving the local market, not to make a profit, as is popularly supposed here, and it invited these local companies to bear their share of any resulting loss through the shipment, as, through taking the surplus off the Sydney market, prices might improve. I quote the following from a letter written on the 9th of June last by a lady who was born and bred in the midst of dairy farming, and whose interests have always been identical with it. "There never was such a time of depression here, rents higher than ever, and prices for produce almost nothing, some are not even making their rent. Fancy, butter only eightpence in the middle of winter! People who were well-to-do are pushed and embarrassed; it makes one miserable to see so much want all round us. *The factories have ruined dairy-farming.*" The italics are mine, but the account is a true bill, and should be a warning to intending emigrants who may think that the introduction of machinery is an unmixed blessing, and that the manufacture and export of butter from Australia is a profitable venture.—I am, your obedient servant,

E. B.

### TOO CANDID.

GEORGE FROST, milkman, of Holly-street, Dalston, was summoned at North London on August 3rd for selling milk to which six per cent. of water had been added, and also from which 15 per cent. of fat had been abstracted.—Inspector Punter, who prosecuted for the Hackney vestry, produced the analyst's certificate in proof of the offence.—The defendant was invited to give evidence on his own behalf, when he denied all knowledge of the fat abstraction. He, however, admitted adding water to the milk.—Mr. Mead: How much did you add?—The Defendant: Two quarts to 32.—Mr. Mead: Just about confirms the analyst's certificate. You are fined £6.—The Defendant: It is my first offence, your worship.—Mr. Mead: I don't care. You have admitted that you are a cheat.—The money was paid.

### CAN "THE ELECTRICIAN" MEAN THE SOMERSET HOUSE SCIENTISTS?

THE *Electrician* "hears with alarm" that Lord Kelvin and Lord Rayleigh recently assisted at an experimental run with the Maxim flying machine. If mere ballast was wanted, it says, copies of their collected works might have been used. At the same time, if living makeweights were required, Mr. Maxim may be pleased to learn (pending the recovery of his machine from a recent accident) that the *Electrician* can furnish him with the names of two or three scientific men who would never be missed.

### MARTELL'S PROTECT THE REPUTE OF THEIR BRANDY TRADE MARKS IN EGYPT.

AN Egyptian trade-mark case has recently been decided before the Mixed Tribunal at Alexandria, in which Messrs. Martell and Co., the well-known brandy shippers, of Cognac, prosecuted M. Pelichronio Leoussi for selling spurious brandy in bottles bearing colourable imitations of their labels. The Egyptian court held that it is not necessary in order to constitute "dishonest competition," that a label should be exactly identical with another. It is a rule generally followed that the counterfeit is determined by the similarities, and not by the differences. In short, it is sufficient to constitute a counterfeit that the design under imputation reproduces the general appearance. The defendant was prohibited from selling any bottle or case bearing the counterfeit labels and brands, and was condemned to all costs of the cause.

### MILK ADULTERATION AT PARTICK.

#### 50 PER CENT. DEFICIENT—HEAVY SENTENCE.

A CASE of considerable interest came before Sheriff Birnie at Glasgow Sheriff Court recently, the sentence being postponed until further information was received in connection with the report of the analyst. The case was at the instance of David Willock, sanitary inspector for Partick, charging Thomas Hillies, dairyman, 66, Anderson-street, Partick, with having sold as pure milk that was deficient in natural fat to the extent of 50 per cent. or thereby. His Lordship has now found the charge proven, and imposed a fine of £5, with the option of a week's imprisonment. At the request of Hillies, a month was allowed to provide the money.

### WATER IN BUTTER.

At the Nenagh Petty Sessions on July 28th Mullins, local Inspector of Food and Drugs, charged Timothy Donohue, of Barnagore, with exposing a firkin butter in the Nenagh market on the 18th of June, having 18.3 per cent. of water. Sir Charles A. Cameron, certified that it contained the percentage of water mentioned, being 2.3 in excess of the statutable allowance, which was 16 per cent.

Bridget Meehan was charged with exposing firkin butter for sale on the 25th of June containing 21.17 per cent. of water.

Terence McGrath was prosecuted for having butter on sale containing 21.31 per cent. of water.

Chairman.—The magistrates have decided to fine Timothy Donohue 1s. and 1s. 6d. costs. In the other two cases, the percentage of water being so very much greater, and so very much in excess of the legal limit, the defendants are fined 20s. each and costs.

Major Waring:—If there are future prosecutions for the adulteration of butter I will vote for very much heavier penalties. Butter, which is one of the most important industries of this country, has lost its good name, and the magistrates of this country will try and help in restoring it.

### ALBUMINOID SUBSTANCES OTHER THAN CASEINE IN MILK.

MILK contains albuminoid substances other than caseine, so say Hammarsten and Sibelien, contrary to the opinion of M. Duclaux. Among other proofs, milk treated with a moderate quantity of acetic acid precipitates the caseine; the filtered fluid gives a coagulum with heat; the coagulum is insoluble in fluoride of sodium, and is not caseine (cow's and goat's milk). Milk fluorated at 1 per cent., subjected to dialysis in the presence of distilled water, precipitates its caseine. The fluid separated from this precipitate contains other albuminoid substances. Boiled, it produces flakes, which, separated by filtration and washed, are insoluble in sodium fluoride. It is, therefore, not caseine (cow's milk). These coagulable substances are an albumin and a globulin.—*Revue Internationale.*



## FACTS ABOUT CIGARETTES.

By F. C. OEHLER.

SENSATIONAL articles frequently appear in newspapers, claiming that the standard brands of cigarettes are made from the poorest kind of tobacco and old cigar stumps, and that they contain opium and other poisonous drugs. These statements have been reiterated so often that the majority of people believe them. On searching the medical and scientific journals, I failed to find any statements that cigarettes contain aught but tobacco. If for no other reason, the manufacturer could not afford to put opium in the cigarettes and to sell them for four cents a package, as opium is a very expensive drug. Opium, even in minute quantities, would spoil the flavour and taste of tobacco, and probably make an inveterate smoker sick, as the smoke of opium is very disagreeable to one not accustomed to it. It has also been claimed that the paper around the cigarette contained arsenic and lead. This idea probably originated from the fact that minerals are sometimes put in paper to make it weigh more; but thin paper, such as that used in cigarettes, is sold by the sheet, and not by weight, and the object is to get the paper as thin and tough as possible. It is well known among chemists that the addition of a mineral would defeat this purpose, and consequently make the paper less saleable. Arsenic is said to be used in the paper to bleach it. Arsenic has no bleaching power whatever; it is sometimes used in coloured or glazed paper, but is never used in the manufacture of white paper of any kind. If paper containing mineral substances be burned, the ash is heavy and preserves its shape, because the mineral substance is incombustible and remains after the paper is consumed. The paper of a cigarette burns to a very small white ash which is less than one per cent. The poisonous substance in the tobacco is the nicotine, and this is present in quantities varying from  $\frac{1}{4}$  to 7 per cent. The amount of nicotine in tobacco depends a great deal upon the way it is cured. If the tobacco is carefully cured, it will contain a very small amount of nicotine; but if, on the other hand, it is carelessly cured, it will contain a much larger percentage. When tobacco is ignited the nicotine is mostly decomposed, as it is a volatile alkaloid and easily affected. The tobacco used in cigarettes is carefully cured, and the percentage of nicotine is very small. The following brands of cigarettes were purchased by me in open market in original and unbroken packages. The percentages stated are the amounts found in the cigarettes just as they were taken from the packages:

BRAND.	Per cent. Ash.	Per cent. Moisture.	Per cent. Nicotine.	Per cent. Arsenic.	Per cent. Opium.
Sweet . . . . .	12.93	16.43	.984	None.	None.
Duke's Cameo . . .	13.65	15.41	1.173	None.	None.
Old Judge . . . . .	14.74	12.17	1.196	None.	None.
Old Dominion . . .	14.16	12.96	1.321	None.	None.

In the above, to get the amount of nicotine, I exhausted the tobacco with ammoniacal ether in a continuous-extraction apparatus, then expelled the ammonia by heating; this left the nicotine in an ethereal solution. I then decanted off the ether and added water, then heated this solution till all the ether was driven off. This left the nicotine in an aqueous solution, which I then titrated with a solution of sulphuric acid of known strength. The per cent. found is very small for tobacco, and is less than found in most cigars and plug tobacco. I carefully tested the papers for arsenic by Marsh's test, and found that there was no arsenic present in any of the above brands. The paper was free from minerals, and burned to a minute white ash.

## COLOURING OF WINE.

SOME of the Continental wine experts are so clever in their manipulation of colouring agents that the finished article resembles a genuine vintage closely enough to deceive even the analytical chemist. It is fortunate, however, that as much skill and knowledge is enlisted on the side of detection as is evinced in sophistication. Soon we may hope that the evil practice will be stamped out. It is not that substances injurious to health are used so much as that a poor quality wine is made to simulate a wine which deservedly commands a higher price in the market.

Recently Herr Ruizand has been investigating the action of sodium peroxide on the colouring matter of wines. He finds that when this substance is added to red wine oxygen is evolved at a

rate proportional to the acidity of the wine, and the colour changes through dark maroon to pale yellow. The decolorisation varies with the proportion of peroxide employed, and is hastened by the addition of hydrochloric acid. Aniline and the various azo dyes are not affected by the peroxide in acid solution, so that their presence in a sample may be detected by treating 5 c. c. of it with from 0.1 to 0.15 gramme of sodium peroxide for fifteen minutes, and then acidifying with acetic acid. If the colour is not discharged an artificial dye is present, and, since the natural colouring matter of the wine has been destroyed by the peroxide, may be tested in the usual way. Other vegetable colouring matters behave in the same way as the colouring matter of wine, and therefore, of course, cannot be detected by this means.—*Wine Trade Review.*

## WATER IN BUTTER PROSECUTIONS AT CORK.

AT Cork the Butter Market Trustees prosecuted ten farmers for tendering to the market, for sale, butter containing an undue quantity of water, whereby the weight was fraudulently increased. The following were the defendants—Patrick Ahern, Keamcarriga, Macroom, the percentage of water 22'04; Thomas Banter, Knockane Berrings, Inniscarra, amount of water 21'34; James R. Cotter, Boula, Dromahane, Mallow, amount of water 23'33; P. Danagher, Lisleady, Limerick, amount of water 24'20; Mary Daly, Kilmore, Milford, Charleville, two firkins, amount of water 27'24 and 22'85; Denis Riordan, Dereensaggart, Ballyvourney, amount of water 22'15; John Culhane, Lisleady, Loughlin, Limerick, amount of water 21'42; Jeremiah Lynch, Lack, Macroom, amount of water 22'37; Patrick Murnane, Letterlicky, Bantry, amount of water 22'84; William Riordan, Islandbrack, Boherbee, amount of water 23'47. Mr A. Blake, solicitor, prosecuted on behalf of the Butter Market Trustees, and the defendants were represented by different solicitors. Mr Blake said in all the cases he understood there would be a plea of guilty, and he asked to have them heard before the magistrates gave their decision. He then detailed the circumstances relating to the several cases. The solicitors appearing for the defendants admitted the charges, but pleaded that there had been no fraudulent intent. They urged that the butter had been made during hot weather, when it was very difficult to extract all the water from it, and in other instances the butter had not been under personal supervision. Mr. Blake said that if the bench were satisfied that there was any case in which the butter should not be forfeited, he would ask them to make an order that the butter, before being returned, should be given to Mr Forrest, the superintendent, to allow the water to be extracted, and that the expense of it should be charged to the defendants.

Mr Mayne considered the application very fair. He also inquired what was the standard of water allowed by the merchants as the result of the Manchester prosecutions? Mr Horgan, solicitor, said that on that question the merchants contradicted one another. Mr Forrest stated that 18 per cent. was the standard in the Cork Market. They refused any brand that contained between 18 and 20 per cent, and when it was over 20 per cent they instituted a prosecution. Mr Blake said the bench had all the cases before them, and he asked them not to forget the element of costs. Sir George Penrose, in announcing the decision of the bench, said the Butter Market Trustees were only doing their duty in trying to protect the public from having water sold to them for butter. The selling of water or salt and water for butter tended to run down the prestige of the Cork Butter Market, and when prosecutions came before the court—no matter how the advocates might work in the interests of their clients—the magistrates could not pass over the fact that the public should be protected. The following fines were imposed—Patrick Ahern, Thomas Batten, James R. Cotter, Mary Daly, Denis Riordan, Jeremiah Lynch, Patrick Murnane, and William Riordan, 20s. each and 10s. costs; the butter to be returned to them when the water had been extracted at their expense. P. Danagher was fined 10s. and 10s. costs, and the butter ordered to be forfeited. In a second case against Mrs. Daly, in which there was 27'24 of water, the defendant was fined 10s. and 10s. costs the butter to be forfeited. John Culhane was fined 5s. and 10s. costs; the butter to be returned when the water was extracted at the defendant's expense.

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### ADULTERATION PROSECUTIONS AT ILKESTON.

AT Ilkeston on August 2nd., George Wright, grocer, Granby street, was fined 20s., and 22s. costs; Edwin Beardsley, 20s. and 22s. costs; Annie Manners, grocer, Belvoir street, 10s. and costs; John Flint, 10s. and 21s. costs, for selling coffee adulterated with chicory. Walter Richardson was fined 20s. and 21s. costs, for a similar offence, also the same amount for selling margarine for butter. William Rice was fined 20s. and 21s. costs for selling margarine as butter.

### SUPPRESSING ADULTERATION IN THE WEST RIDING OF YORKSHIRE.

ON July 16th at the West Riding Police-court, Bolton-by-Bowland, Matthew Metcalfe, innkeeper, Gisburn, was fined 10s. and £1 7s. 11d. costs for selling one pint of Scotch whiskey 36 degrees under proof.—Wm. Glover, grocer, Gisburn, was fined 1s. and £1 5s. 8d. costs for selling three ounces of sweet spirits of nitre containing 5 per cent. of water and destitute of nitrous ether.—Thos. Ed. Duckworth, grocer, Rimmington, was fined 20s. and £1 6s. costs for selling three ounces of tincture of rhubarb destitute of extractive matters 40 per cent., alcohol 20 per cent., and also wholly destitute of saffron.—Wm. Hartley, innkeeper, Rimmington, was fined 10s. and £1 7s. 10d. costs for selling one pint of Scotch whiskey 32·2 degrees under proof, also 10s. and £1 7s. 6d. costs for selling one pint of gin 43·7 under proof. The offences were committed on May 18th, and Inspector A. Randerson, Skipton, prosecuted on behalf of the West Riding County Council.

### THE QUALITY OF HAMBURG BUTTER.

MR. CONSUL-GENERAL DUNDAS, of Hamburg, writes:—"Butter as an article of export to foreign countries has assumed great importance, amounting to no less than 151,654, cwt., of the value of £799,774 in 1892, which was less than in the preceding year. Of the figures above mentioned the whole, with the insignificant exception of 23,638 cwt., which was all that found its way out of the total export to foreign countries, went to Great Britain. To supply this export trade Hamburg derived more than the total quantity exported from inland sources. It is a great question as to how much of this article which is supplied to foreign markets is genuine butter. It is a well-known fact that the sale of genuine butter in the country is safeguarded from compounds known under the designation of butter. But this does not operate in the case of the exported article, and the large quantities imported into Hamburg undergo a great deal of manipulation in this city in the processes of washing and blending, so that it is a difficult matter, and one which only those expert in the trade can pronounce upon, to credit that what goes out is pure and unadulterated butter. But the opinion of outsiders seems to be unanimous in condemning it as an adulterated article."

### PUNISHING A WARRANTY GIVER.

AT Brentford on July 28th, E. Smithard, dairy farmer, of High Woods, Uttoxeter, was summoned by Inspector Tyler, of the Middlesex County Council, under the Food and Drugs Act, for having given a false warranty with a consignment of milk on the 6th or 7th June to Enderley Handsley, trading as the Callow Park Milk Company.—Mr. G. W. Lay appeared for the defendant.—Inspector Tyler explained that some time ago Mr. Enderley Handsley was summoned at the Brentford Police-court for having sold milk which on analysis was found to be adulterated, and by Mr. Ricketts pleaded that he had a warranty with the consignment. That summons was thereupon dismissed and the present proceedings instituted.—The receipt of the consignment from the defendant at King's Cross was proved, a witness stating that one churn was numbered 9 and bore a warranty. That was the one from which the sample was purchased.—Cross-examined: The churns were never locked, and could of course be opened whilst on the railway.—Several of the men in the employ of Mr. Handsley were also called to prove what was done with the milk up to the time it was sold. Each of them swore that they in no way tampered with it.—Mr. E. Handsley produced the contract between himself and the defendant, by which the latter warranted every consignment to be good, pure milk, with all its cream, and unadulterated, and also produced the warranty which was attached to the churn.—Cross-examined: He had had consignments tested this past week, and they were correct. So far as he had known, with the exception of the case in point, the consignments had always been correct.—He had dealt with the defendant for years.—Mr. G. W. Lay said that it was a great pity that the railway companies would not allow the churns to be locked; if they would permit it there would have been no doubt in this case. The defendant put the milk up in churns, it was delivered at the local railway station, and was then left to the mercy of the railway company, to be tampered with or not. If tampered with, the consignor had to suffer, and could prove nothing against the railway companies. The defendant had not the slightest idea how water got into the milk consigned to London; he was an honest, upright man, against whom nothing had previously been brought.—The defendant, sworn, said that often samples of his milk had been taken, and had been found correct. He personally milked the cow, his wife put the milk up, and the consignment was taken to the station by his man, who had been with him for many years.—Cross-examined: The last named man was not in court.—The Bench convicted the defendant and imposed a fine of 20s. and £2 0s. 6d. costs.—The Chairman said that the Bench regretted very much that the railway companies would not allow the churns to be locked.

### THE "BIRMINGHAM MAIL" ON "BLITHERING IDIOTS."

THE new order of the Board of Agriculture relative to swine-fever seems likely to come in for some rough handling. Were this order, says the *Birmingham Mail*, put into force in Birmingham, the Corporation could stop nine-tenths of the pigs which come into the city from entering its boundaries, for the order stipulates that pigs shall not be moved from an infected area. The Holland (Lincolnshire) County Council recently resolved to reject the new order on the ground that it was impracticable and useless, one of the members rather rudely, but forcibly, remarking that it had been drawn up by a set of "blithering idiots." The Council also decided not to take the necessary steps for publishing the order. Fortunately for us, the Corporation do not apply these vexatious orders at all rigorously; were they to act up to the powers they will possess when the new order comes into force they will be able to keep Birmingham porkless for months. It is rather a significant fact that the bulk of the practical people in the pig trade say that all this legislation concerning swine-fever is absolutely farcical, and that the Board of Agriculture might just as well prevent the migration and emigration of dogs in an area which is infected by reason of the presence therein of a puppy with the distemper.

### WHAT IS CHEESE ?

JAMES LOTEN KNIGHT, grocer, of Petworth, was summoned for selling as cheese an article not of the substance of cheese.—The Chairman: Before this case proceeds I should like to know what the legal definition of cheese is.—Mr Brydone (Magistrates' Clerk): I can look in a law book.—The Chairman: I am not asking this question idly. I want to know.—Mr Brydone: I don't know.—The Chairman: I know you don't, nor anybody else, it strikes me.—P.S. White said that on Friday, June 22nd, he went into defendant's shop and asked for some cheese. He tasted one, and asked for a cheaper one. He was shewn one, of which he asked for ½lb. He was served with 15oz. and was charged 3½d. for it.—William Bridger, Superintendent of Police, produced the analyst's certificate.—The Chairman: The Bench is unanimous in thinking that the case may be stopped here. There is no definition in law as to what cheese is. There is no doubt that this cheese was made of skim milk, but the law does not say that a tradesman is bound to mark his cheese "This is skim," "This is whole milk," or "This is cream." But what appeals most strongly to us is that the purchaser got the article he wanted to purchase. He asked for a cheap cheese, and was supplied with one. No man in his senses would expect whole milk cheese for 4d. a lb. There is no fraud in this case and no adulteration.—Sir W. Barttelot: He asked for a cheap cheese and got it.—Mr Brydone: There is the water.—The Chairman: The water is not admixed. It is merely milk which has been deprived of its butter milk by skimming.—The case was dismissed.

### SUPPRESSING ADULTERATION AT SOUTH SHIELDS.

AT South Shields on August 3rd Christian Neilson, landlord of the Shipwrights' Arms, West Holborn, was summoned for selling rum, containing 19½ per cent. of added water, on the 14th ult.—Mr. J. Moore Hayton, Town Clerk, prosecuted on behalf of the Corporation.—Mr. Michael James Pollock, the local inspector under the Food and Drugs Act, stated that on the 14th June he purchased a pint of rum at the Shipwrights' Arms, kept by the defendant, from Mrs. Neilson, for which he paid 2s. He informed her that he was going to have it analysed. The certificate produced related to the sample sent to the analyst, and showed that it contained 19½ per cent. excess of water, by which the strength was reduced to 44½ per cent. under proof.—Defendant said if that was the case, the adulteration had not been made intentionally. He always put a very small quantity of water in his rum, and as his attention was distracted by other matters at the time he was making that from which the sample was taken, he must, by mistake, have added water twice.—The Bench imposed a fine of £3 and costs.

William Watson Ridley, farmer, of Cleadon, was summoned on a charge of selling milk from which 25 per cent. of the butter fat had been abstracted.—The inspector deposed to purchasing on the 17th June some milk from the defendant's milk cart in Wapping Street, which was in charge of a boy. The analyst's certificate showed that 25 per cent. of the butter fat had been abstracted. He asked for "new" milk. Defendant asked the Bench to allow the case to be withdrawn, as he alleged that his milk had not been properly sampled. He sent out two barrels with his cart, one containing new milk and the other "skim" milk, and they were sold as such. Had two samples been taken it would have been all right, as his skim milk even contained 5 per cent. more fat than was required. If the inspector asked for new milk the lad must have made a mistake and supplied him with the "skimmed."—A fine of 20s was imposed.

THE ST. HELENS ANALYST AND A WITNESS'S FEE.—At the meeting of the St. Helens Watch Committee the town-clerk reported that the Local Government Board had sanctioned the appointment of Dr. Robertson as public analyst. It was resolved that in cases where the defendant requires the attendance of the analyst under Sec. 21 of the Sale of Food and Drugs Act to give evidence and there is a conviction, the analyst be empowered to charge a fee of £2 2s for each attendance, such fee to be paid to the credit of his salary account.



## IMPORTANT SPENT GINGER PROSECUTIONS.

At the Marlborough-street Police-court, on August 2nd, the adjourned hearing of a summons against Mr. G. W. Hayward, of 12 and 14, Shepherd-street, Mayfair, W., for selling ground ginger adulterated with 70 per cent. of "spent" ginger was heard before Mr. Newton. Mr. Gill, barrister, appeared for the prosecutors, the St. George's (Hanover-square) Vestry, and Mr. F. W. Beck for the defendant, whose case was taken up by the Metropolitan Grocers' and Provision Dealers' Association. Frederick Avis, assistant inspector, proved having purchased a quarter of a pound of ground ginger from the defendant, for which he paid three-pence. By Mr. Beck: He asked for ground ginger, not for genuine ginger. Mr. C. E. Cassal, the public analyst for the Vestry, explained that "spent" ginger was ginger that had been treated with a solvent—frequently alcohol, whereby the extractive matters capable of being extracted were obtained, leaving only the woody fibre and starchy matters. This extract was largely used by ginger beer manufacturers. By Mr. Beck: After the extractive process the residuum contained certain ill-defined resinous bodies. There was a slight pungent taste left. At the request of Mr. Beck the witness then described the process of analysis which he employed. He stated that the standard by which he judged the sample was one that had been arrived at by many experiments made by public analysts. It might be true that the attention of public analysts had only been devoted to the consideration of "spent" ginger as an adulterant during the past few months, and it was true that there were standards of ginger in the British Pharmacopœia. But then the Pharmacopœia was not a book of standards for scientific purposes, but merely for dispensing chemists. He would accept the Somerset House standard, because, in the case of ginger, it agreed with his own. He was not familiar with "spent" ginger as it came from the mineral water manufacturers. Being handed a sample of such ginger by Mr. Beck, he admitted that it contained a taste of ginger, but very slight as compared with genuine ginger. Mr. Beck, for the defence, said his client was greatly surprised to find that he had been selling such an article. Had he known the true nature of it he would not have sold it. He bought it from a highly-respectable firm—Messrs. Barringer and Co., of Mansfield, and they had written expressing surprise that a summons should have been issued against an article which they had bought from a well-known firm of London spice grinders (Messrs. Drysdale, Dennison, and Co.), who, when appealed to on the matter, said that they held that the admixture of a certain proportion of spent ginger with a high quality of other ginger was not an adulteration. As to the *bona fides* of his client he would, if necessary, put him into the box to prove that he bought it as No. 1 ground ginger, the barrel in which it was packed bearing the words "genuine ground ginger." It of course was not a warranty within the meaning of the Act, but showed that the defendant was free from dishonest knowledge. His worship assented. Mr. Beck, after mentioning one or two other contentious points, said his main defence was that no offence had been committed under the 6th Section of the Act. The inspector asked for ground ginger and got it, though he got ground ginger minus a certain essential oil. In *Lunn v. Collins* it was held that when a person asked for milk and got skim milk, he got milk though it was minus the cream, and that no offence had been committed under Section 6, although possibly there might be an offence under Section 9. After some discussion the summons was amended and brought under Section 9, a nominal fine of 10s. and 2s. costs being inflicted. An application by the Vestry for the costs of their analyst was refused, as the magistrate pointed out that they had proceeded under the wrong Section.

At the Bingley Petty Sessions, on August 1st, Sarah Greenwood and sons, grocers, Cullingworth, were summoned by Mr. A. Randerson, inspector under the Food and Drugs Act, for selling adulterated ginger. Mr. E. V. Hiley prosecuted on behalf of the West Riding County Council, and Mr. P. Naylor defended.—Mr. Hiley said that on May 23rd the inspector visited the defendants' shop and purchased 2½ lb. of ground ginger, for which he paid 9d. One-third of the ginger was sent to the public analyst at Sheffield, and his certificate said that the sample contained sand and extraneous mineral matter to the extent of not less than 5 per cent.; in other respects it appeared to be genuine ginger. The ginger was mixed and adulterated with dust and counter sweepings. It was usual to find about 5 per cent. of dust in ginger, but the total percentage in this sample was 10.8.—The statement of Mr. Hiley was supported by Mr. Randerson and Mr. A. H. Allen, public analyst, Sheffield.—Mr. P. Naylor, at the outset, said his clients purchased the ginger from a Keighley firm as genuine ground ginger. As such it was described on the canisters in which it was supplied, and this he held constituted a warranty.—Mr. F. M. Rimmington, the Bradford borough analyst, said that he had analysed one sample of the ginger, and had found in it 2.5 per cent. of silica or sandy matter, and 2.45 per cent. at a second assay. The ginger in question was a very common kind, and it was very likely that particles of sand would be still adhering to it when put in the machine to grind. The sample was genuine, everything present except the sand being natural to ginger.—The Bench decided that the third portion of the sample should be sent to Somerset House for analysis, and adjourned the case for a fortnight.

## THE DAIRY TRADE AND A MILK STANDARD.

OUR contemporary *The Cowkeeper and Dairymen's Journal* says: "So strong appears to be the policy of the professional scientists that there should be a standard fixed for the quality of milk, that it appears to us that the weak-kneed dairymen and the public should be invited to regard the subject from another point of view. The object of the Adulteration Act is primarily to prevent adulteration; the result of fixing a standard will inevitably be to elevate adulteration to a species of fine art; the public now get good milk as a rule and don't know it, and after passing this standard they will get inferior milk and be in the same state of indifferent ignorance. The Badcock tester and other cheap scientific instruments so quietly and accurately determine the fat in the milk that large dealers and companies who deal with their milk in bulk from a central depot have facilities given to them by this proposal which invite adulteration and depreciation of quality if sold to standard. The altered Act to the large dealer would mean that they would be enabled by testing to distinguish the farmer whose produce exceeded the standard, and add it to that which, although below the standard, was absolutely pure, and thus avoid the penalties of conviction, but would always manage to sell with impunity milk that would, if sold by itself, be condemned, the small dealer who, dependent upon one herd, sold pure milk without scientific manipulation, would sometimes sell milk above the standard and perhaps, as he has not the instruments for detection it might be below occasionally, and he would fill his place in the dock and be criminally punished for acting honestly, or failing to be in possession of means whereby he might have satisfied the analyst who, ignorant of the cow's condition, does not find the amount of solids he has taken as a standard, and failing that piously swears the dairymen is a criminal, forgetting that his certificate may as a fact be a lie, although unwittingly declared, nevertheless, untrue. Our contention is that after passing the fixed standard there will be a poorer quality of milk in the market for supplying to the public than at present, for now high-class farms obtain and sell the best quality of milk. The fixed standard will enable farmers to extract butter, and gradually the dairymen will have to be regarded as a vendor of a limited standard liquid, but not of pure milk. In short, as we have before suggested, all milk should be required to contain all its cream, no matter how much, and if sold with less than 2.50 of fat, and 8.50 of solids not fat, the authorities to proceed, and providing the certificate to be correct, the only defence to be the appeal to the cows (the particular herd) from whence the milk was obtained, but such defence, if proved, not to carry costs, but simply to prevent a conviction being recorded. Before the Committee rises we may have the question of standard further developed, but pure milk with all its cream is far and away superior to any analytical standard as yet conceived."

## THE "GILT EDGED" BUTTER TRADE.

PROFESSOR G. C. CALDWELL says "the attention of the Department of Agriculture has very recently been called to a more serious mode of adulterating butter than by the use of either oleo-margarine or the vegetable butter. A substance called "gilt edge butter compound" was received indirectly from the Planet Manufacturing Company, Wichita, Kan., with the statement that by taking equal parts by weight of genuine butter and of milk, or one pint of fresh milk and one pint of butter, and one gramme of this compound, two pounds of butter can be obtained. The process consists simply in making the genuine butter first somewhat soft and pliable by warming and working it so that the churn dasher will go through it and then churning the whole together, the milk being warmed to about 100 degs. F. and the churn scalded so as to warm that; then salt and butter colour are added. The direction is given not to work the product, but to put it away into jars in a cool place to harden. On analysis it was found that the genuine butter contained about sixteen per cent. of water, while the sample of this counterfeit butter made with the gilt edge compound contained almost fifty per cent. of water. It was learned on examination that said gilt edge butter compound contained pepsin, and experiments that were made showed that this ferment gives to butter, by acting as an emulsifying agent, the property of taking up much additional water, and that the rennet ferment will act in the same way. The whole process is a very inexpensive one for loading the genuine butter with a large additional quantity of water."

## CONTRACTS FOR DISINFECTANTS.

### IMPORTANT NOTICE!

To Local Boards of Health, Vestries, and Sanitary Authorities generally.

THE SANITAS COMPANY, LTD., beg to give notice that they have reason to believe there are several unprincipled firms who are offering for sale more or less worthless and fraudulent imitations of the well-known "Sanitas" Disinfectants.

The various "Sanitas" Disinfectants are all manufactured by scientific processes which are protected by Letters Patent, and in order to guard against the nefarious practices above referred to, it is respectfully suggested that all contracts for "Sanitas" Disinfectants and Appliances should be entrusted to the Sanitas Company, Ltd., who are the sole manufacturers, or that a stipulation should be made making it obligatory upon contractors to supply the goods in our original sealed packages.

## THE SANITAS COMPANY, LIMITED

(C. T. KINGZETT, F.I.C., F.G.S., Managing Director)

LETCHFORD'S BUILDINGS, THREE COLT LANE, BETHNAL GREEN, LONDON, E.



### SPURIOUS ADULTERATED NITRATE OF SODA.

AT the meeting of the Council of the Royal Agricultural Society, Viscount Emlyn, chairman of the Chemical Committee, reported the receipt of a letter from the Permanent Nitrate Committee, complaining of a paragraph in the quarterly report of the Chemical Committee, published in the last number of the Journal, on the subject of the alleged deterioration of the quality of nitrate of soda, as to which the Committee had to remark that the statement in question was based upon the results of analyses made for members of the Society during 1893 and the first five months of 1894. During 1893 the percentage of analyses which showed less than 95 per cent. of nitrate was 17.6 per cent., and during 1894 the percentage of analyses showing this deficiency was 53.3 per cent.

### DRESDEN'S RECOMMENDATIONS *re* MARGARINE.

IN view of the evidence which it is understood will be presented to the Select Committee of the House of Commons on Food Adulteration in favour of further legislation respecting the sale of margarine, the following resolutions adopted by the Dresden Chamber of Commerce on the 12th instant are interesting:—(1) That the colouring of Margarine or the use of milk in its production should not be forbidden: (2) that a decided protest should be made against the proposal to impose an excise as well as an import duty on margarine: (3) that the police control over the sale of margarine and mixed butter and margarine (butter mixtures should be strengthened and rendered more effectual than it is at present; and (4) that all persons who employ margarine in the preparation or sale of food and delicacies, such as proprietors of eating-houses, publicans, bakers, and confectioners, should be compelled, under penalties, to notify the fact that they supply or use this commodity by exhibiting conspicuously a placard to that effect in their places of business.

### A PROVISION DEALER HEAVILY FINED.

At the Clerkenwell Police-court, John Jones, trading as Jones Brothers, provision dealer, at 345, Hornsey-road, Holloway, was summoned before Mr. Fenwick by James William Cowley, one of the sanitary inspectors for Islington, first that on the 10th inst. he sold butter adulterated to the extent of 90 per cent. of foreign fat; second, that he did unlawfully have in his possession for the purpose of sale a quantity of margarine that was not branded or durably marked margarine; third, that contrary to the Margarine Act, on the sale of  $\frac{1}{2}$  lb. of margarine by retail, the same was not delivered to the purchaser in or with a paper wrapper on which was printed the word "margarine." The defendant was also summoned for selling at another shop—namely, at 196, Caledonian-road—packets of margarine that were not properly labelled.—Mr. Lewis, solicitor, appeared on behalf of the Islington Vestry to prosecute, whilst a solicitor whose name did not transpire appeared on behalf of the defendant, and stated that he should plead guilty to the whole of the summonses. From the evidence of the sanitary inspector and the statement of the prosecuting solicitor, it appears that defendant keeps several shops in the metropolis, trading as Jones Brothers. On July 10th the officer visited the shop at Hornsey-road, and purchased half a pound of butter, and when in the shop he noticed there was margarine in tubs for sale, and that they were not labelled, as directed by the Margarine Act. Margarine was also purchased, and the assistant sold it without placing it in a paper properly labelled. The officer drew the attention of the assistant to these omissions; after which she took from behind the tubs of margarine some labels and placed them on the tubs, but made no remark about the wrappers. A boy entered the shop and purchased some margarine, which was served to him in plain paper. The inspector again drew the attention of the assistant to the omission. A visit was made to the shop at Caledonian-road, and margarine was exposed for sale without being labelled, and it was seen that customers were served with margarine in plain paper.—Mr. Lewis said that defendant was in an extensive way of business, and had been previously convicted.—The solicitor for the defendant said he was only ordered to pay the costs, 12s 6d., on that occasion.—Mr. Fenwick asked what was the answer to the summonses.—The solicitor replied that owing to the defendant having two businesses, he had over-reached himself, and duties that he personally should have seen carried out had been delegated to his servants, and they had neglected through sheer carelessness to carry them out. Defendant had the printed labels that ought to have been on the tubs of margarine, and that they were in the shop was shown by the evidence of the sanitary inspector, who said the assistant, after he spoke about the matter, put them on the tubs. With respect to the printed papers, there were hundreds of them, but the assistants neglected to use them. It was defendant's intention to sell one of these shops, so that he could personally attend to the one shop he had; therefore such omissions would not occur again. It was not true that defendant had other shops.—Mr. Fenwick said that with regard to the first summons under the Food and Drugs Act, there would be a fine of £5 and costs. In respect to the other four summonses under the Margarine Act, there would be a fine of 50s. and costs on each summons, making in all £18 2s. 6d.—The solicitor asked that time might be allowed for payment.—Mr. Fenwick said he would grant seven days in which to pay the money.

### THE SELECT COMMITTEE ON ADULTERATION.

THE Select Committee of the House of Commons on Food Products Adulteration have determined to stop their inquiries now and present to the House a report containing the evidence taken up to this point, along with a recommendation that the Committee should be reappointed early next session in order to complete the inquiry. The evidence so far has had reference almost exclusively to dairy products.

### ADULTERATED MUSTARD.

MR. JOHN WILLIAM BOIER, grocer, Chart Sutton, Staplehurst (Kent), was summoned at the Bearsted Petty Sessions, on July 30th for selling adulterated mustard on July 3. Instructing-constable Purton proved purchasing a quarter of a pound of mustard at defendant's shop on the 3rd ult., and Superintendent Holman produced the analyst's certificate, which stated that the analysed sample consisted of 95 per cent. of pure mustard and 5 per cent. of wheat flour.—The Bench imposed a fine of 5s. and 10s. costs, in default seven days' hard labour.

### WEST SUFFOLK AND THE ACTS.

AT Bury St. Edmund's on Monday there was a quarterly meeting of the West Suffolk Standing Joint Committee in the Shirehall, Sir Thomas Thornhill, Bart., presiding.

As to a resolution of the County Council to take into consideration the best and most effective manner of carrying out the sale of the Food and Drugs Act in the county of West Suffolk, returns of Superintendents of Police as to samples taken and analyses made during the quarter were submitted.—Mr. Cousens (Cockfield) suggested the desirability of the police authorities being afforded legal assistance in prosecutions.—Major Heigham (Chief Constable) remarked that there was already a standing order to that effect, provided the sanction of two magistrates was obtained. The Rev. J. White felt that country shopkeepers had been proceeded against, whilst town tradesmen, who supplied the adulterated commodities, escaped prosecution.—Ultimately it was decided that the Chief Constable be authorised to procure legal assistance wherever he thought it necessary.

### SINGULAR POINT IN A MILK ADULTERATION CASE.

THE County analyst (Dr. Bostock Hill) has drawn attention in his report to a singular point in connection with milk adulteration. He said: "In one of the adulteration cases, after the defendant had pleaded guilty, the case was dismissed by the Bench on the ground that as milk was asked for, and not new milk, no offence was committed by the sale of milk from which a portion of cream had been removed. While not in any way presuming to question the propriety of this decision from a legal point of view, I cannot forbear to call attention to the fact that if this decision be upheld the ordinary purchaser, when asking for milk, may be supplied not with milk, but with an article from which the most valuable substance has been removed. As milk is the only perfect physiological food for infants, it is important that one of the necessary, and, indeed, most important, constituents of diet should not be omitted." The Sanitary Committee, to whom Dr. Bostock Hill's report was made, recommended that the attention of the Local Government Board be drawn to the decision, with the view of having it revised or the law altered.—The motion was adopted.

### ADULTERATION IN DURHAM.

THE county analyst, in his report to the Durham County Council at its quarterly meeting, made the following report, which will be interesting to the provision trade:—Cheese: Eight samples were analysed; one was found to be adulterated; it contained 24 per cent. of foreign fat. This so-called "cheese" is an ingenious combination of the curd of separated milk with a mixture of other fats which have not the least relation to the original fat of the milk. Separated milk does not find a ready sale as such, and its conversion into "cheese," as above described, offers a tempting field for its profitable disposal. Lard: Out of eleven samples, one only has been found to contain beef fat, and this to the extent of only 2.50 per cent. Out of the twenty-two samples analysed during the past six months this was the only sample which had been adulterated; whereas during the preceding six months the rate of adulteration was about 40 per cent. These figures showed plainly what could be done by consistent effort. There could be no doubt that lard adulteration had received a permanent check, and that the check was largely due to the support afforded by the Council to its officers when the latter were engaged in the conduct of a difficult act of administration. Yeast: Three samples have been analysed, and one has been found to contain extraneous starch to the extent of 9 per cent. This was another form of adulteration which had become exceedingly rare in the county of Durham. Ground Ginger: Fifteen samples have been analysed, and three have been found to contain "exhausted" or "spent" ginger. He had on numerous occasions regretted the want of definitions and standards which so conspicuously mark the present Food and Drugs Acts. The Council would be aware that a Select Committee was now holding an inquiry into the working of these Acts, and, in closing his report, he would take the opportunity of saying that it would be a matter for regret if this Committee should conclude its business without being made aware of the special experience of the county of Durham.



## THE SELECT COMMITTEE ON ADULTERATION.

V.

(Continued from page 232.)

Mr. Herbert Gardner asked you about the use of preservatives milk and butter, and you mentioned especially boracic acid; I suppose that is in the form of boro-glycerine?—It is generally used in that form.—Has it been decided whether the addition of boro-glycerine or boracic acid for the purpose of preserving milk or butter constitutes adulteration?—I will not be quite certain; I have got a note somewhere about that, but I fancy that in the last Commission it was decided that it should not constitute adulteration.—But you do not know of any legal decision?—I know of none.—There is nothing about it in any of the Acts of Parliament?—No, I have not seen any legal decision upon it.—Then I suppose there are other admixtures with butter which have not exactly been decided to be adulteration, such as the addition of colouring matter, anatto and so on?—That has never been considered an adulterant.—In the course of your milk analyses, or butter analyses, have you come across preservatives such as boracic acid or salicylic acid in appreciable quantities?—Yes, in chemically estimating quantities, but not in large quantities; sufficient for this purpose, no doubt, as a preservative.—And you have no reason to believe that they are a more obnoxious preservative than salt in the case of butter; chloride of sodium is of course a preservative?—I think that is more a medical question than a chemical one.—I ask you, as a matter of fact, would you treat the presence of a little boracic acid, if you found it in butter, differently from the presence of some chloride of sodium?—I should not.—You mentioned that in New York the standard of fat which you understood they adopted in milk was 3 per cent.; what is your limit of fat here?—2·75 per cent.—Has it been recently increased?—From the results of the examinations that we made of these 273 samples, and seeing the quantity of fat in those samples, we came to the conclusion that we might raise the limit from 2·5 to 2·75.—That is not a standard; that is the limit?—That is the limit.—You estimate that fat by exhaustion with ether?—We do.—Has there been any method of adulterating milk by the addition of fat so as to counteract the results of cream extraction?—Such a case has not come before me?—Do you know whether it has been alleged by analysts?—I have not seen any properly authenticated case.—But it has been alleged?—Yes, it has been alleged.—What was alleged to have been discovered?—The fat was not mentioned.—It was not identified?—No.—There has never been any case of disputed analysis on that point referred to you?—If I remember rightly we have had one case of milk referred to us which contained starch to make it a little thicker, or course.—In appreciable quantities?—We estimated, I think, about 1 per cent. That was quite sufficient to make it up thicker.—Mr. Kearley: Was it put in intentionally?—Yes, no doubt.—Sir Charles Cameron: Is sugar of milk ever added as an adulterant, or do you attach any importance to its estimation?—We never do estimate it in the analysis of a sample; it goes in the solids not fat.—I noticed also that in giving the results of analysis you mentioned the caseine and albumen together; why was that?—The only two points that we give in an ordinary analysis of milk are the solids not fat and the fat, and all those come in the solids not fat.—Mr. Herbert Gardner asked you, and another honourable Member asked you, as to the amount of admixture of skim milk with natural milk that would be required to make an appreciable increase in the proportion of solids as compared with a considerable diminution in the fatty process; but that will vary of course, you said most guardedly, within certain limits. That depends entirely upon the qualities of the two milks?—It depends entirely upon the quantity of fat naturally present in the sample.—So that if you were to take one of those very samples of which you spoke, where we had 5·9 per cent. of fats, you could add a large amount?—Nearly its whole bulk of separated milk.—Without the adulteration becoming apparent?—Yes.—I suppose that where you have a low percentage of fat, as in the case where you have only 2·43 per cent., you might consider it adulterated even without the addition of separated milk?—Yes.—Is there any proportion between the fats and the solids not fat contained in the milk, or do they vary; may you have a milk rich in fat and low in solids or *vice versa*?—I will give you an illustration of that from some samples of milk that we took from a dairy (I will pass the name up to the honourable Chairman in a moment). There was one where the solids not fat were 8·23 per cent.—That was a good average?—It was below the 8·5 per cent., and the fat was 12·52 per cent.—Was that natural or added?—It was quite natural, because our assistant saw the cows milked; when you look at the paper and see the origin you will be sure that it is all right. Then there is another one of 8·32 per cent. solids not fat, and 4·09 per cent. fat. Then there is another of 8·43 per cent. solids not fat and 4·59 per cent. solids fat.—So that the relation between the fats and the solids not fat do not give you anything like a conclusive indication as to the natural or artificial nature of the milk?—They do not. Just one other point about the composition of milk; does it not vary greatly according to the period which has elapsed between the calving of the cow and the time of taking the milk?—It does; but, at the same time, you cannot say that it is an invariable rule that such-and-such a thing will happen when the cow has calved so long. For instance, there is that illustration in the Table of

12 per cent. of fat. That cow has only calved about three weeks, and, as a rule, milk is rather low in fat at that time, but that is a remarkably high yield.—What I wished to ask you about was this: Immediately after calving the milk contains an extra amount of solids, and, I presume, fatty matter?—Yes, it does, of solids.—And that goes on for a few days?—Yes.—Have you tested the milk at that particular period within those few days?—Yes; but it can scarcely be called commercial milk within two or three days of calving, because the physical conditions of the milk are of a kind that you could not use in an ordinary household.—But I suppose that, as soon as it becomes fairly assimilated to commercial milk, it would be mixed with the other milk on the farm?—Yes, certainly.—And will greatly add to its richness?—It will.—You mentioned a fact which was perfectly new to me a moment ago, that three weeks after calving milk generally is low as regards its richness?—It does not contain the maximum amount of fat.—Does it go up again when the milk begins to dry up?—Sometimes; but you cannot have an invariable rule about the kind of milk that a cow will give at particular times.—In connection with milk analyses, are any adulterants or ingredients made use of for the purpose of hiding a disagreeable taste, such as a turnip flavour?—I have not found it to be the case that anything is added.—Have you any reason to believe that the ingredients of condensed milk are at all added for the purpose of bringing up the quality of natural milk?—I have heard of such things as condensed milk being brought over from the Continent and then used in wholesale houses in large towns for the purpose of bringing up the percentage of solids not fat.—But nothing of that sort has come under your notice?—Nothing of that kind has come under my notice.—Would you be able to detect that, I suppose, again within certain limits?—Yes, I should be compelled to say that.—Because everything would depend upon the normal or abnormal composition of the milk with which the thing was added, and the judiciousness of selection both of the milk and condensed milk?—Yes, and the care with which they manufactured the article, for instance, not exposing it to a very high temperature, because you get the burnt quality directly; but they are careful to do that in a vacuum pan. Sir Charles Cameron: You have had some controversy with the public analysts about your checking of their results, and I wish to bring out exactly, from your point of view, the points on which they find fault with the system adopted at Somerset House and your defence of it. I think it is very desirable for the Committee to understand it. I have here in my hand a letter addressed to your predecessor, Dr. James Bell, dated September 1892, from a very large number of public analysts and chemists, in which they criticise the wording of your certificates. The first paragraph is this: "You cannot be aware that, for a long time past, many Dublin analysts have been of opinion that the wording of some of the certificates issued by you on disputed samples referred to you under the Sale of Food and Drugs Act is liable to produce an erroneous impression on magistrates and on the public;" and they go on to say, "In the case of milk you sometimes state that you 'are unable to affirm that water has been added';" and they "suggest that in cases which appear to you to be doubtful and in which you consider it probable that water has been added, although your analytical results do not enable you to speak positively upon the point, it would be only fair and proper to add to your certificate that 'the results of the analysis are, at the same time, compatible with the presence of . . . per cent. of added water,' or words to that effect." I should like to hear what you have to say with regard to that suggestion?—I do not want to go into anything controversial if I can help it, but I think that that is due to a misreading of the Adulteration Act, 1875. I think that the analysts have overlooked what power was given under the Adulteration Act. As I said before, so long as any commodity has had nothing added to it or taken from it, it may be of poor quality, but yet at the same time the vending of that particular article is no offence under the Act.—And you are a sort of chemical court of appeal at Somerset House?—Exactly.—And you consider (personally I entirely agree with you) that it is for you to state if you detect adulteration, but that you have nothing to do in the way of stating that the results are compatible with percentages of added water to what may have been rich samples of milk?—Yes, but we went further than that. We felt sure that we were right so far as the law was concerned, and we submitted it to the law officers of the Local Government Board and our own law officer also, who came to the conclusion that our certificate would not be legal if we were to make use of the words suggested.—As to the controversial matters, we must understand the nature of the controversy, and that is why I wished to clear it up?—If you will allow me, I should like to refer back again to one paragraph of the report of the Committee on Adulteration, which sat in 1874, on the 1872 Act, because that throws a great light on the particular point raised by the analysts. On page IV. of that Report this statement is made by the Committee under the heading of "Milk." "Too high and rigid a standard has been fixed by some analysts, and no sufficient allowances made for the natural variations in milk. 10 per cent. of milk solids may be more difficult to obtain under certain unfavourable conditions than 12 or 14 under more generous diet, a warmer atmosphere and more comfortable lodging. Not only does the quality of the milk vary with the food, the breed of cattle, the time of year and treatment of the animals; but the milk of one cow of the same breed will differ greatly from that of another, managed under a precisely similar



system; and further, the first and last pint of milk which a cow gives at the same milking will present all the difference between an extremely poor and an extremely rich milk. Allowances should therefore be made for these natural variations which some purely scientific chemists seem to have occasionally overlooked." That is in the Report of the Committee itself.—There is one point that I think it desirable that the Committee should be informed upon. In the chemical analysis everything is deduction; that is to say, that having got certain facts you have in any case, even in the simplest matter, to work out rule-of-three sums in order to find the result?—Mainly.—And in any case organic analysis you are obliged not merely to introduce your rule of three sums, but to assume a standard from which to work in order to get your percentage?—Yes.—So that it is based on assumption, and you are obliged to assume a comparatively low standard in your analysis at Somerset House?—Especially in connection with the power that the Act gives us; we cannot go beyond the Act.—It is your business to do justice, not to stigmatise a man as an adulterator unless you are prepared to show that he is such?—It is a criminal act; so that it must be so.—The public analysts, I think, made the same complaint about butter, that your Department recently stated that a sample "practically falls within the limits of the poorest quality of genuine butter met with in commerce, and no evidence is afforded that foreign fat has been added to the butter"; and the analysts suggest that you should in fairness have added: "But the results are compatible with the presence of . . . per cent. of foreign fat in the sample." You would give the same explanation, I take it, in that case?—Yes, that it would be an illegal addition to the certificate.—And in the case of an analysis of butter, as in that of milk, you are obliged to assume your standard, and, working out exactly by the same methods the same results, if you assume one standard and the analysts another, you differ, in your conclusions?—Exactly.—Now what rights have the public? Samples are sent to you regarding which there is a dispute, at the discretion of the Court, are they not?—At the discretion of the Court.—And the defender has no right to demand a sample to be sent to you?—No, I think that is one of the weaknesses of the Act.—Would you be for allowing the defender in every case to have reference to you?—If he wishes to do so he ought to have the right.—You think that he ought to have the right?—Yes.—Would not that right be availed of in such a case in a very large number of cases?—I think not.—If a man has process taken against him for adulteration, has he the right at present on his own account to send you an independent sample?—No, it must come through a magistrate.—I have here a case, which I have shown you, which recently occurred in Bristol; it is a milk case, in which a certificate from Somerset House was handed in, and that certificate stated that "after making provision for natural loss arising from change that had occurred in the milk through keeping, we are of opinion that the milk, although of poor quality, does not afford evidence of the presence of added water." Your certificate, in other words, was to the effect that there was no evidence of adulteration?—It was.—And that certificate of yours does not appear in this case to have been accepted as conclusive; why was that?—I was there in the court, so that if you wish to have a full explanation, I shall be happy to give it.—I should very much like to have it?—The case came to us in the ordinary way. I cannot be quite certain about the figure, but on Wednesday next I will give you the exact figure. The analyst's certificate (if I remember rightly) was, solids not fat, 7.61 per cent. We made our solids not fat 8.2 per cent. and the fat was right; so we came to the conclusion that there was no evidence of an addition of water to the sample of milk. When the case came on for hearing, it appears that the analyst's certificate was put in, and there was no further evidence given; but the defendant wished a sample to be sent to Somerset House for analysis. That was done. We sent down our certificate, and in the meantime one of our body was subpoenaed by the authorities at Bristol to go and give evidence. Our own Board are always very anxious that everything shall be done that can be done, quite regardless of expense, and as three of our body had been connected with the analysis of this sample of milk, we went down on that particular day for the adjourned hearing. When we got down there, for some reason or other which I do not understand, our certificate, which was in court, I suppose it was accepted, but it was put in this way: That they could not tell whether the certificate came from our own laboratory or from where it came, or whether it was signed by clerks, or by whom it was signed. Then, after that, the magistrate and the clerk to the magistrate knew that we were there, but the solicitor for the prosecution would not examine any of us, and did not examine any of us, so at last the solicitor for the defendant had to examine us. We were examined by him, and then we were cross-examined by the solicitor for the prosecution. After the evidence had been led, the magistrate came to the conclusion that the case must be dismissed, and he awarded the defendant two guineas costs.—But the peculiarity of this case (this is what I want perfectly to understand) appears to me to be that the Somerset House certificate was not accepted?—The argument was that the analyst's certificate was mentioned in the Act of Parliament, and therefore it could be received, but that there was nothing to show that the certificate from Somerset House could be taken as distinct evidence in the case.—You have had this Act of 1875 working nearly 20 years, and that you say is a very elementary point that appears

not to have been decided?—This is the first occasion of the kind we have had.—But at all events a case has never been decided by any superior court, has it?—No.—Would it not be necessary to have that point provided against in legislation?—I fancy that when we take this fact into consideration, that the Commissioners of Inland Revenue are referees under the Act, it is surely right that a certificate sent by their officer should be taken as evidence in a case.—That is apparently the intention of the Act of Parliament, but it appears that now, for the first time, after all these years an objection has been taken to the Act not being explicit, on the point; is that so?—Yes. I could not understand the case, and I cannot understand it now.—You might mention what the case was?—That was a case of milk adulteration.—Can you give the name of it. Was it against Charles Henry Smith, of Bristol, dairyman, tried in June last?—Yes, it was adjourned.—Then again, there is another peculiarity in this case. I see that you (I think you mentioned it yourself) and some of your colleagues were examined. Now there is no machinery in the Act for requiring your personal attendance, is there?—There is no doubt that if we are subpoenaed down there we must go.—But you would go simply as experts, and not as referees?—Yes, it would be as referees.—Then you, or the officers of your department, are frequently summoned to attend adulteration cases to which you send in certificates?—Very seldom. I do not think there have been above six or seven cases during the whole time that this Act has been in force. What is your staff, might I ask, at Somerset House?—It consists of two chiefs, two superintending analysts, 12 analysts, and 41 assistants; altogether 57.—Your chief duties will lie in connection with excise matters?—And in being chemists to other departments. We do a very large amount of business, for instance for the India Office on contracts for India in food and other things.—One of the points on which the public analysts criticise you most freely is the want of experience which they say holds good in the case of Somerset House; you do not admit that, of course?—We cannot admit that.—I have here the report of a discussion that occurred in the Society of Analysts in which that point came up, and they mentioned that you did not have more than 40 or 50 appeal analyses to make in the course of a year?—It is not a matter of the number of samples we have on appeal; it is the number of samples we examine: and when you come to milk analysis, if you once understand the method of milk analysis and can do it, you can do 10,000 just as well as you can 100. I suppose also, as a matter of fact, it being your object to obtain as correct data as possible, you often, as in the case of milk to which you referred, make a very large number of analyses for the purpose of arriving at a basis of standard and limits?—Certainly, and we have nearly always got some additional work going on in one or other direction in which points are wanted to be cleared up in connection with analyses.—You report certain of your analyses to the Local Government Board, I suppose; do you report all those food and drug cases?—They are taken from our annual report.

(To be Continued.)

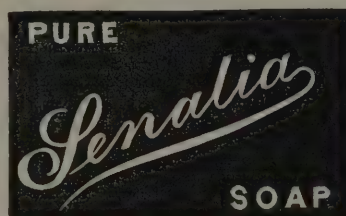
## REVIEWS.

CREAMERIES AND INFECTIOUS DISEASES. By J. J. Welply, M.D., Bandon. (Ballière, Tindall, and Cox, King William-street.)

This is a very painstaking inquiry into an outbreak of typhoid fever in which fifty-two persons contracted the disease directly through a creamery to which they sent their milk, by partaking of the separated milk returned by the creamery, whilst nine persons contracted typhoid indirectly by food or milk from dairies which became infected secondarily. A person at one of the farms supplying the creamery had contracted typhoid on a visit to a distant city, and the milk from his farm going to the creamery had infected the whole of the separated milk returned by the creamery to other farmers supplying the creamery. Dr. Welply directs attention to this danger because its lessons should be known wherever the system of co-operative dairying is in use.

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**Food and Sanitation.**  
SATURDAY, AUGUST 18TH, 1894.

**DO THE SOMERSET HOUSE REFEREES UNDERSTAND FOOD ANALYSIS?**

BUNCO-STEERING is an American expression and is in a measure synonymous with those English phrases "hocussing a juggins" or "stuffing a flat," and like many mysterious bits of argot which find no place in dictionaries, but nevertheless are at times useful and expressive, inasmuch as they often explain in a few terse words what would otherwise require a lengthy paragraph to make clear. We shall not assume readers of FOOD AND SANITATION to be in that state of pristine simplicity which is the prerogative of Her Majesty's judges, but will after this explanation take it for granted that they know what Bunco-steering signifies. If they do not, they will have, however, no difficulty whatever in grasping its innermost meaning if they study the evidence given on behalf of Somerset House to the Select Committee on Adulteration. We have before had occasion to compliment Mr. Richard Bannister as a witness, and to regret that he is not as great an adept at food analysis as he is a talkologist—we might even under the circumstances say codologist—for it has rarely been our lot to meet with so choice an instance of the art of hocussing a select committee as was exhibited on July 11th. Our contemporary, *The Grocer*, has been deluded by it into making the statement that "Mr. Bannister's evidence proved that his department in its analysis of nearly 50,000 samples a year has acquired an all-round experience that makes it an invaluable court of reference; whilst its officers bring to their work an intelligent appreciation of their position as arbitrators, and endeavour to do justice to all parties." We give Mr. Bannister's ipsissima verba in order that our readers may see how artfully the committee was being jockeyed.

Sir Walter Foster said to Mr. Bannister, "In the Government laboratory you receive cases for analysis, or specimens for analysis, from different localities?—The reply was, Yes; both for our ordinary official work, and also for our work under the Sale of Food and Drugs Act.—Sir W. Foster: Under the 22nd Section of the Sale of Food and Drugs Act?—Mr. Bannister: Yes. If you will allow me I will tell you what we received last year. From the Customs Department we received 2,137 samples; from the Admiralty 73; from the Board of Trade 557; from the India Office 707; from the Post Office 143; from the

Home Office 43; from the War Department 18; from Trinity House 86; from the Stationery Office 4; from the Office of Works, London and Dublin, 33; from the Colonial Office 2; and references from magistrates 71.

—Sir W. Foster: That is under the Sale of Food and Drugs Act?—Mr. Bannister: Yes; and parochial samples 15; making together 3,889.—Sir W. Foster: Of which how many were under the Sale of Food and Drugs Act?—Mr. Bannister: 71. Then from the Inland Revenue Department we received 12,083 samples of tobacco; beer for estimation of drawback, 9,102; beer duty samples, 8,621; beers from public-houses, 2,820; tinctures 5,575; naphtha 773; miscellaneous 5,392.

—Sir W. Foster: What is the total number of samples?—Mr. Bannister: 48,255.—Sir W. Foster: I believe you have a table of the number of specimens referred to you under the Sale of Food and Drugs Act from 1875 to 1894?—Mr. Bannister: Yes.—Sir W. Foster: Can you give us a brief analysis of that table?—Mr. Bannister: Yes, I can. Samples of arrowroot 4, beer 5, bread 7, brandy 4, butter 62, carbolic acid 1, coffee 26, cream 1, flour 3, gin 6, ginger 5, ginger beer 1, ketchup 1, lard 23, lemonade 3, laudanum 1, linseed meal 1, magnesia 1, milk 411, mustard 8, sweet nitre 4, oatmeal 13, ointment 1, peas 2, pepper 29, quinine 4, rum 3, soda water 1, tea 3, vinegar 14, water 2, whiskey 28; total 678.—Sir W. Foster: In those 678 specimens submitted to you, in how many did you agree with the previous analysis?—Mr. Bannister: In the cases of 474."

From the above the ordinary reader would form the opinion—as it is obviously intended it should be formed—that the Somerset House chemists had a large, varying, and practical knowledge of food analysis. Few would be so ignorantly foolish as to assume, as *The Grocer* does, that the department has acquired an all-round experience and analyses 50,000 samples per year, but by the *suggestio falsi* anyone not on his guard against deception would be persuaded, from the Somerset House statement, that the Government chemists really analysed an enormous number of samples of food, drugs, and drink. That it is calculated to convey such an impression is evident from the very drafting of questions and answers. In reply to the question as to the samples analysed "under the 22nd Section of the Sale of Food and Drugs Act," Mr. Bannister says, "Yes, if you will allow me I will tell you what we received last year." He then gives a list as follows:—

From the Customs	...	...	...	...	2317 samples
" Admiralty	...	...	...	...	73 "
" Board of Trade	...	...	...	...	557 "
" India Office	...	...	...	...	707 "



From the Post Office ... ..	143 samples
„ Home Office ... ..	43 „
„ War Department ... ..	18 „
„ Trinity House ... ..	86 „
„ Stationery Office ... ..	4 „
„ Office of Works ... ..	33 „
„ Colonial Office ... ..	2 „
Referred by Magistrates ... ..	71 „
Parochial Samples ... ..	15 „
Total 3,889 samples	

The Grocer Munchausenises these 3,889 samples into nearly 50,000 which speaks volumes as to *The Grocer's* consistency in mis-statement; but we deny that the department has even the right to credit itself with having made 3,889 food analyses during the past year.

Mr. Bannister carefully avoided saying what the 3,889 samples referred to them by the various Government departments really were, and we have only actual evidence that 71 of the 3,889 were foods, viz. : *those samples referred by magistrates to Somerset House under Section 22 of the Act.* The remaining 3,818 samples may be red tape, blotting paper, or specimens of the particular "gruel they call their brains" from the various gentry of the "Tite Barnacle" order who infest Government departments, tie the House of Commons up in red tape, and are as much the curse of England as they are costly irritating nuisances.

During nineteen years only 678 samples were referred to the Somerset House chemists as against over 37,000 samples in one year to public analysts. In nineteen years only 411 samples of milk were referred to them as against 248,484 samples analysed during the past thirteen years by the Aylesbury Dairy Co. alone, and yet the Somerset House chemists, without knowledge, skill, or experience, have the effrontery to put their opinion, based on 411 samples in nineteen years, against that of the Aylesbury Dairy Co.'s 248,484 samples in thirteen years! Of *The Grocer's* alleged 50,000 samples, 12,083 were tobaccos examined practically for moisture, 20,543 were beers examined for gravity mainly, 5,575 were tinctures examined for alcohol, and 773 were naphtha—all of which have as much to do with a knowledge of foods, their composition and analysis, as the Korean war has with the interceptor trap. For the Somerset House chemists to claim on the strength of this gin, beer, tobacco, and naphtha testing that they are able to analyse foods, and for *The Grocer* to allege that their experience amounts almost to 50,000 samples per year, is to attempt a stupid hocussing of the Select Committee and to mislead grocers.

As regards food analyses, Somerset House is like nothing so much as the bumptious person who asserted he could play the fiddle, but when questioned closely had to admit that his sole ground for the assertion was his having slept in the same bed as an expert violinist. We have proved a hundred times over that they cannot analyse foods, and as a matter of fact we have done more, for by the denatured snuff frauds we have shown they could not even detect sulphur and assafoetida in snuff, and that their ignorance cost the Revenue thousands of pounds by fraud. It is therefore a gross impertinence that they should seek to Bunco-steer the select Committee into the belief that they are adepts in a science in which they are not even ordinary intelligent students.

## PURE MALT VINEGAR DEFINED.

### IMPORTANT CONVICTIONS AT CHICHESTER.

At the Chichester City Bench on August 11th, before the Mayor (Alderman Smith) and other magistrates, Oswald D. Cottell, of White-Cottell and Co., vinegar manufacturers, of 101, Long-lane, Borough, was summoned for giving a false warranty in writing to William Blyth, in respect of vinegar sold by him as principal or agent, at Rumboldswyke, on April 5th. Mr. E. B. Wannop appeared in support of the summons, whilst Mr. W. Parker-Cogan was solicitor for the defence. At the outset the last named explained that his expert witness, Professor Attfield, was unfortunately unable to attend that day.

Mr. Wannop, in opening the case, said that William Blyth, grocer, was summoned for selling adulterated malt vinegar, but the defence set up was that a warranty was supplied to him by the merchants, and on that ground the summons was very properly dismissed. So far as the facts in the present case were concerned he could not see what defence there could be. The warranty consisted of an invoice and of a label attached to the barrel bearing the words "Guaranteed pure malt vinegar." According to the evidence given in the case against Blyth, it was admitted by the defendant (Mr. Cottell) that it was not malt vinegar, but was what was known in the trade as pure commercial malt vinegar. Notwithstanding that, he should still maintain that the warrant was a false one, because the article was not warranted as pure commercial malt vinegar, but as "Pure malt vinegar." It was said on the last occasion that no such thing as pure malt vinegar was made; but such was not the case, for it would be proved by Mr. Otto Hehner, analyst for West Sussex, that he had frequently analysed samples which were perfectly pure. The samples in the present instance contained 30 per cent. of vinegar made from malt, and 70 per cent., made from other ingredients. Although there had been no conviction recorded against vinegar brewers in a case of this kind before, Mr. Wannop said he believed he should be able to present such a clear case that the magistrates would have no hesitation in convicting, and if they did so, he should ask them to impose such a penalty as would act as a deterrent to manufacturers, and prevent them scattering broadcast warranties of a false description.

Sergeant Goble, the first witness called, proved that on May 22nd he visited Mr. Blyth's shop, and asked to be supplied with a pint of malt vinegar, which was given to him by Mrs. Blyth. He afterwards informed her that the sample was intended for analysis, and it was divided into parts in the usual way.

Superintendent Ellis produced the certificate of the analyst, and stated that he was present when the case against Blyth came before the Court. That case, however, was dismissed on the ground that there was a warranty given to Blyth by the manufacturers, the warranty consisting of an invoice and a label on the cask bearing the words "Guaranteed pure malt vinegar." The certificate of the public analyst showed that the vinegar only contained 30 parts of malt vinegar and 70 parts of vinegar not made from malt.

William Blyth, grocer, Whyke-lane, gave evidence as to the sale of the sample of vinegar, and proved that it came from a cask supplied to him by White-Cottell and Co. He sold the vinegar exactly as he received it.

In reply to Mr. Cogan, witness stated that when he purchased it he was told by defendant's traveller that it was pure malt vinegar. He gave 9d. per gallon for it, asking to be supplied with the cheapest malt vinegar.

Mr. Otto Hehner, public analyst for West Sussex, stated that he had frequently had samples of malt vinegar sent up to him, and on very many occasions found them perfectly pure. The description on the invoice and label produced, concerning the vinegar sold to Mr. Blyth, was a false description. There was nothing injurious in the vinegar.—At the conclusion of his examination-in-chief, Mr. Hehner was subjected to an exhaustive cross-examination at the hands of the solicitor for the defence. First of all he was asked a number of questions as to the constituents of genuine malt vinegar, after which Mr. Cogan directed his cross-examination to show that malt vinegar could be made from other grain besides barley, and that vinegar might be pure malt vinegar without necessarily being made from barley malt. The witness admitted that vinegar might be made from oats or rye. Asked if there was any real definition of malt, Mr. Hehner said that the broad and recognised definition was that malt as sold commercially was barley malt. Malt might be made from rye or oats, as ordinarily understood, but malt must be made from barley. Of course, if he asked for any specific malt he could get it, but if he asked for malt generally it was barley malt as much as butter was cow butter, and not, say, cocoa-butter. He had no hesitation in saying that if a man bought malt he expected barley malt. Acetic acid was derived from alcohol and alcohol from sugar, while sugar in many instances was derived from starch. Vinegar brewers had not come into Court much in the past because they had always allowed the blame to rest on the retailers. Therefore he could not give any case where a vinegar brewer giving a warranty had been convicted for selling vinegar made from other substances than malt. He was sure the vinegar in question was largely made not from malt or grain. He admitted that there were many articles sold under names which were not happy nor quite illustrative of their contents, such as cocoanut ice and chocolate creams. Malt vinegar had been made and known for many years, if not for centuries, as vinegar made from malt. It was always made from malt until some 30 or 40 years ago, when it was found it could be made cheaper from malted and unmalted barley, and substitutes were afterwards made from other foreign and cheaper ingredients. He did not in any way object to the sale of vinegar brewed from any saccharine matter under the name of vinegar; but in his opinion to sell vinegar which had been mainly or largely brewed from sugar under the name of "guaranteed pure malt vinegar" was a fraud. While willing to give the most liberal interpretation to the term "malt vinegar," and including in it vinegar brewed from unmalted barley, he absolutely objected to give the name malt vinegar to a vinegar not brewed from grain at all. The Sale of Food and Drugs Act laid down that the purchaser had a right to



obtain "an article of the nature, substance, and quality demanded by him," and to sell sugar vinegar instead of malt vinegar without notice was, in his opinion, an obvious contravention of the Act, no matter what the interpretation of the words "malt vinegar" at Somerset House might be. His opinion on the matter was at least entitled to as much respect, if not to more, than that of the Revenue chemists who had passed as genuine malt vinegar, an article containing admittedly a percentage of wood acid.—Re-examined, witness said that as the article here was guaranteed as pure malt vinegar the description was distinctly false.

Addressing the Bench for the defence, Mr. Cogan, having pointed out that the vinegar in question was a perfectly good and wholesome article, contended in the first place that no warranty had really been proved. Had it, he asked, ever been made clear that the words malt vinegar had been appropriated to vinegar made purely from barley malt, and was it an offence to apply those words to vinegar made from other substances which might be malt and unmalted grain, or from unmalted grain alone, or even sugar? He maintained distinctly that it was not. He had asked for authorities, and the prosecution had failed to produce any. All they heard, he declared, had been the dictum of one individual (Mr. Hehner), who proposed to lay it down as absolute law that malt vinegar must be made from pure barley malt and from no other substances. But it was not the dictum of Mr. Otto Hehner which was to decide the case. The question was what was the law on the point? The difficulty the Bench would have was that there was no legal definition of malt vinegar whatever, and, in the absence of a legal definition, he thought the magistrates would hardly take upon themselves to decide what malt vinegar was and what its constituents should be. What the prosecution sought from the Bench was a judicial declaration that in the future malt vinegar was to be made from pure barley malt and from no other substance, and that henceforth any person applying for malt vinegar must understand that he was buying vinegar made from pure barley malt. When his client sold the article he sold it as an article recognised and appreciated in the commercial world as malt vinegar, and of a purity and strength in keeping with the price paid for it. In the face of this and in the absence of any legal proof by the prosecution that there was a definition of what malt vinegar really was, he urged that it was impossible for the Bench to convict. No legal evidence had been adduced to show that anything impure had been used in this vinegar, or to show that it was illegal to use saccharine substances in malt vinegar. He said the basis of vinegar was sugar, whether derived from the sugar in the malt or added sugar, and, therefore, it was legal to add sugar to vinegar brewed from malt and unmalted grain. In a case of this kind they must not lose sight of that valuable commodity, common-sense, and he submitted that there were hundreds and thousands of things sold every day—and legally sold—under titles which did not happily illustrate their contents. Therefore, he contended that what was known as malt vinegar was an English vinegar, as distinguished from foreign vinegar, and that it was no offence to sell it as such. He made a strong appeal to the Bench to refer the sample to Somerset House, but the Bench were satisfied of the accuracy of Mr. Hehner's analysis, and declined to accede to the application.

The defendant was called, and stated that he had been connected with the trade 25 years, and was conversant with the manufacture of malt vinegar. He supplied the vinegar in question, and was satisfied with the description given to it on the invoice. He did not know what malt vinegar was if this was not such. He always understood malt vinegar to be vinegar made from a proportion of malt, unmalted grain, and other saccharine matter. No vinegar house that he was aware of used malt alone in making vinegar, nor did he know of any house using malt and barley alone. He was acquainted with the working of several houses. Malt vinegar, he alleged, was vinegar made from malt, barley, oats, sugar, and in fact any saccharine matter. This particular sample of vinegar was genuine malt vinegar, and what he had always understood as such. That was, it was a wholly brewed vinegar. He was of opinion that the constituents of this vinegar were rightly

employed, and from his experience they were usually made use of in the manufacture of malt vinegar. It was generally held that phosphates were of no use in vinegar, but were detrimental to it. If a warranty had been given in this case, he believed he was fully in the right in giving it. In common with other makers, witness had turned out this article for many years, fully believing it to be malt vinegar, and he knew of no other malt vinegar. In cross-examination, witness could not say how many parts of the vinegar were made from malt or how many from unmalted grain. Probably one-half the vinegar was made from sugar or saccharine matter. Re-examined, he said he knew of no definition of malt. At the conclusion of the evidence the magistrates retired to consider their decision, and, returning in a few minutes, the Mayor announced that they had decided to convict, and to inflict a fine of £5 and costs—£10 in all.

Mr. Cogan asked that the grounds of the decision should be stated; but the magistrates' clerk replied that it was not usual for this to be done.

The entire costs in the case must be very heavy, including as they do the costs at the first hearing, when the summons against the retailer was dismissed with costs against the manufacturers. Altogether it is believed they cannot be much less than £100. This case is important, as being the first in which proceedings have been taken against a vinegar manufacturer for false warranty.

## ENCOURAGING MILK ADULTERATION IN LEEDS.

IF the following be a fair specimen of the fines inflicted by Leeds magistrates, their local newspapers ought to point out that such penalties are not only farcical but act as direct incentives to fraud. On August 10th a fine of 5s., including costs, was inflicted on William Barker, grocer, of 44, High-street, Leeds, at the City Police-court, for having sold on the 13th ult. a pint of milk which had been analysed by the city analyst and found to contain 20 per cent. of added water. Mr. W. B. Walker, inspector, prosecuted. This fine really punishes the Corporation instead of the person who sold 20 per cent. of water at the price of milk, inasmuch as the analysis and summons would cost at least 13s. without reckoning the cost of the inspector's time. Magistrates who have so rudimentary a sense of their duty to the public can only be roused to a full appreciation of their responsibilities by official censure or a little press attention. As, unfortunately, our Government departments never administer any censures, it is left to the press to perform this useful work. It is a subject well worth the attention of our Leeds *confrères*, for very grave reasons, apart from the fact that the ratepayers ought not to be mulcted in costs and rogery encouraged by paltry penalties.

Milk forms the principal food of infants, and to deprive it of its nourishing properties is a very dangerous practice. With 5s. penalties, and the Somerset House food referees already passing as genuine milk substances containing 2.75 per cent. of fat, whilst it is well known that pure milk averages over 3.50 per cent of fat, the milk vendor is already able to mix at least 4½ gallons of separated milk to every 10 gallons of genuine milk, and sell the swindling concoction as pure milk in defiance of analyst or inspector, because the Somerset House chemical referees have legalised this swindle. When to this monstrous fraud is added the further one of putting in 20 to 30 per cent. of water, it is surely time that magistrates should not make the law an ass by 5s. fines. A rough calculation in the light of this magisterial encouragement of adulteration and the Somerset House chemists' degraded standard of 2.75 per cent. fat, discloses the fact that the people of Leeds may be swindled of some £60,000 per annum by milk adulteration alone, which is surely a subject more worthy of engaging the attention of Leeds reformers than the suppression of educational or entertaining Sunday lectures.

**HORLICK'S**  
**MALTED**  
**For Infants**  
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**MILK**  
**CONTAINS PURE MILK, WHEAT AND BARLEY MALT.**  
**NUTRITIOUS, DIGESTIBLE. GUARANTEED ABSOLUTELY PURE.**  
**OF ALL CHEMISTS AND STORES.**  
**SAMPLES FREE. 39, SNOW HILL, E.C.**



### ALLEGED ADULTERATION OF GROUND GINGER.

AT Bingley Petty Sessions, on Wednesday, August 1st, Sarah Greenwood and Sons, grocers, Cullingworth, were summoned by Mr. A. Randerson, inspector under the Food and Drugs Act, for selling adulterated ginger. Mr. E. V. Hiley prosecuted on behalf of the West Riding County Council, and Mr. P. Naylor defended.—Mr. Hiley said that on May 23rd the inspector visited the defendants' shop and purchased  $\frac{1}{2}$  lb. of ground ginger, for which he paid 9d. One-third of the ginger was sent to the public analyst at Sheffield, and his certificate said that the sample contained sand and extraneous mineral matter to the extent of not less than 5 per cent.; in other respects it appeared to be genuine ginger. The ginger was mixed and adulterated with dust and counter sweepings. It was usual to find about 5 per cent. of dust in ginger, but the total percentage in this sample was 10·8.—The statement of Mr. Hiley was supported by Mr. Randerson and Mr. A. H. Allen, public analyst, Sheffield. The latter said no sample which he had analysed had he found to contain extraneous mineral matter to such an extent as this one, or anything approaching it.—Mr. P. Naylor, at the outset, said his clients purchased the ginger from a Keighley firm as genuine ground ginger. As such it was described on the canisters in which it was supplied, and this he held constituted a warranty, if he could prove that his clients had not tampered with the ginger after receiving it. He went on to point out that the ginger in question was of a low quality; ginger of high quality was sold at 2½d. to 3d. per ounce, whilst this was retailed at 1d. per ounce. There was no offence in selling ginger of low quality. The portion of the sample left with the defendants by the inspector had been analysed by Mr. Rimmington, and he had found it to contain but 2½ per cent. of sand, which could be accounted for by the fact that ginger of such quality was not as carefully cleansed before grinding as ginger of high quality, and the sand found on analysis was that which probably adhered to the root after it was taken from the ground.—Mr. F. M. Rimmington, the Bradford borough analyst, said that he had analysed one sample of the ginger, and had found in it 2·5 per cent. of silica or sandy matter, and 2·45 per cent. at a second assay. The ginger in question was a very common kind, and it was very likely that particles of sand would be still adhering to it when put in the machine to grind. The sample was genuine, everything present except the sand being natural to ginger.—In cross-examination by Mr. Hiley, he said he did not look for chalk in the sample. If there was any dust in it it would be destroyed by incineration. The total ash from the sample was not excessive.—The Bench decided that the third portion of the sample should be sent to Somerset House for analysis, and adjourned the case for a fortnight.

### POWELL v. THE BIRMINGHAM VINEGAR BREWERY, COMPANY.

THIS was an appeal by the defendants, before Lords Justices Lindley, Lopes, and Davey, against a decision of Mr. Justice Stirling, heard on August 8th. The plaintiff, who trades under the name of Goodall, Backhouse, and Co., at Leeds, moved for an injunction to restrain the defendant company from passing or attempting to pass off, and from enabling others to pass off, sauce not of the manufacture of the plaintiff as or for the goods of the plaintiff by the use of the term "Yorkshire Relish," or in any other way. The plaintiff and his predecessors in title have for upwards of 34 years manufactured and sold a sauce (the composition of which is a trade secret) under the name of "Yorkshire Relish." This sauce has been so sold in bottles with a distinctive label, of which the words "Yorkshire Relish" form a conspicuous part. These bottles have been sent out to the trade in wrappers, on which also appeared conspicuously the words "Yorkshire Relish." Under that name the sauce has been extensively advertised. Previously to the year 1884 the plaintiff and his predecessors at various times successfully took legal proceedings to restrain the use of the words "Yorkshire Relish" in connection with any sauce not being his or their manufacture. In 1884 the words were registered as a trade mark under the statutes. The result was that down to November last there had not been in the market any sauce under the name of "Yorkshire Relish" except the plaintiff's. In 1893, however, proceedings were successfully taken by the defendant company for the removal from the register of the plaintiff's mark ("Re Powell's Trade Mark," Law Rep., 1893, 2 Ch., 388; 1894, A.C., 8). Soon after the decision of the House of Lords in that case the defendants began to place on the market a sauce, which they described as "Yorkshire Relish," and thereupon the plaintiff brought the present action. The defendants' sauce is sold in bottles on which is placed a label which does not, in its general appearance, resemble the plaintiff's, but contains at the top the words "Yorkshire Relish" in large letters, and the statement, "Manufactured by the Birmingham Vinegar Brewery Company, Limited, successors to Holbrook and Co., London and Birmingham." These bottles are placed in wrappers, on which also appear the words "Yorkshire Relish," accompanied by the like statement. The sauces of the plaintiff and the defendants had been analysed by a chemist, who stated that there was a wide difference between them, and that they were decidedly different sauces; and, there being no evidence to the contrary, it was assumed by the learned Judge for the purposes of the motion that they were different. From the evidence adduced, the Court came to the conclusion that, until the defendants entered the

field, the wholesale and retail dealers who ordered sauce under the designation of "Yorkshire Relish" knew that it was manufactured by the plaintiff, and relied on its being so manufactured; and that many of the consumers probably knew nothing of the manufacturer, but when they ordered sauce under that name expected to get that which they had been accustomed to buy—viz., sauce of the plaintiff's manufacture. From the evidence given as to the result of the defendants' placing their goods on the market under the name of "Yorkshire Relish," the Court formed the opinion that an unwary purchaser who observed the words "Yorkshire Relish" prominently on the defendants' label, and bought the defendants' article, although the label was different, might very well be deceived into thinking that the label was a new one, and that he was getting the plaintiff's sauce. The question was whether, under the circumstances, the plaintiff was entitled to the injunction which he claimed, notwithstanding that he had no exclusive right to the use of the term "Yorkshire Relish." Mr. Justice Stirling granted an injunction, until the trial of the action or further order, restraining the defendants from using the words "Yorkshire Relish," as descriptive of or in connection with any sauce or relish manufactured by them, or sauce or relish not being of the plaintiff's manufacture sold or offered for sale by them, without clearly distinguishing such sauce or relish from the sauce or relish of the plaintiff.—Mr. Moulton, Q.C., and Mr. Vernon R. Smith (with whom was Mr. Buckley, Q.C.), for the defendants, argued that the practical effect of the order was to prevent the defendants from using the words "Yorkshire Relish" at all, though those words only denoted the article, and the plaintiff had no exclusive right to the use of the words.—Mr. Graham Hastings, Q.C., and Mr. John Cutler, for the plaintiff, were not called upon. The Court dismissed the appeal, but made the costs in the action. Lord Justice Lindley said that the case was a difficult one, and he would say nothing about the merits now. He did not understand the order as simply restraining the use of the name "Yorkshire Relish." That was not the meaning of it.

### STAFFORD COUNTY COUNCIL AND THE SALE OF FOOD AND DRUGS ACT AND MARGARINE ACT.

THE following is the quarterly report of the county analyst Mr. E. W. T. Jones:—

Under the above-mentioned Acts the inspectors have submitted to me for analysis during the last quarter 275 samples: 243 I have found genuine and 32 adulterated. The percentage of adulterations on the samples submitted is 11·63, against 11·65 for the corresponding quarter of last year. From North Staffordshire I have received 146 samples, giving 14 adulterations, and from South Staffordshire 129 samples, giving 18 adulterations. Taking the adulterated articles alphabetically, the first one is beeswax. This is, of course, submitted as a drug, occurring as it does in the Pharmacopœia. Out of three samples submitted only one was genuine. The other two samples contained no beeswax, being mainly coloured paraffin to imitate it. Out of 47 samples of butter analysed, seven proved to be margarine, containing from a trace up to 40 per cent. of real butter. There seems to be a tendency to increase the percentage of butter-fat in margarine, probably with a view of its more likely passing as the genuine article. Out of 14 samples of coffee only one was adulterated, and this with 22 per cent. of chicory. Samples bought as coffee now are oftener genuine than they used to be; the greater outlet for chicory appears to be in the so-called "French coffee," which is often nearly all chicory. The important article of milk, which is so easily adulterated, either by dilution or abstraction of cream, still affords plenty of scope for analytical watchfulness, for during this quarter nearly one in every seven samples has proved to be a case for magisterial investigation. One sample had been diluted to the extent of one-third, whilst another sample, besides having been watered to the amount of 22 per cent., had also been deprived of at least 40 per cent. of its cream. Creaming or mixing with "skim" milk is the more frequent direction that tampering with this article now takes, and seeing that analysts have to take a very low standard for this consideration, I have little doubt we pass over a very large number of somewhat skimmed samples. Out of eight samples of spirits two have been found wrong; one (brandy) I have no doubt was the subject of a mistake, for it proved to be sherry; the other was a whiskey diluted 15 per cent. below the legal limit.

It has been decided that Mr. Harold Van Tromp be continued as inspector under the Weights and Measures and Sale of Food and Drugs Acts for District C with a salary at the rate of £150 per year for the ensuing quarter, with the necessary travelling expenses not exceeding £40 per month.

#### STAMPING CHURNS.

A discussion arose on a proposal to stamp milk churns, one of the inspectors having reported that a London Stipendiary had dismissed a charge against a Staffordshire farmer for having unstamped churns, having regard to the fact that the defendant had not been afforded an opportunity of having them stamped.

Mr. Carrington Smith said that the capacity of milk churns varied from day to day, as the metal with which they were made was flexible. He was in favour of the milk trade being carried on by weight.

It was ultimately decided to request the Finance Committee to consider the necessity or advisability of stamping milk churns.



## MORE GROUND GINGER PROSECUTIONS.

RICHARD B. ALLISON, grocer and provision dealer, of Southwick near Sunderland, was charged on August 4th, at the Sunderland Petty Sessional Court, with selling ginger "not of the nature and quality as demanded under the Food and Drugs Act." William Wilson, an assistant inspector under the Food and Drugs Act for the Durham County Council, stated that on July 6th he visited defendant's shop and purchased an ounce of ginger. A portion of the sample was forwarded to the county analyst, Mr. W. F. R. Stock, of Darlington, whose certificate showed that the sample contained 30 per cent. of "spent," or exhausted ginger. James Laidlaw, chief inspector for the Chester-le-Street Division under the Food and Drugs Act, informed the Bench that the exhausted ginger was generally purchased from mineral water manufacturers who had used it in the preparation of ginger-beer and similar beverages. Defendant said that the ginger was in the same state now as it was when he received it from the wholesale house. It had stood in a drawer since January 29th, so that it might have lost a little in strength, but he had in no way tampered with it. He produced his invoice, which showed that he had paid for "ground ginger" at the rate of 8d per pound. The Chairman observed that defendant was evidently not the guilty party. His remedy was against the wholesale house that supplied him. Under the circumstances no conviction would be entered, and the case would be struck out upon the payment of costs.

At Stockton Petty Sessions, on August 8th, Joseph Calvert, grocer and provision dealer, of Sedgfield, was charged under the Food and Drugs Act with selling adulterated ginger. Thomas Dunn, inspector under the Food and Drugs Act, said that on July 17th he visited the defendant's shop and purchased three ounces of ginger, for which he paid threepence, the usual price. A sample of this purchase was submitted to the county analyst, and was found to be adulterated to the extent of 40 per cent. Mr. Stanford, who appeared for the defendant, did not attempt to deny the facts as stated by the inspector. His client had added nothing to lower the quality of the ginger, and had sold it of the same substance and quality as he had purchased it. It was purchased from wholesale merchants in Newcastle, ready packed in 4lb. tins. He could not deny that the ginger was adulterated, but Mr. Calvert was not to blame. On the top of the tin were the words, "Warranted ground only from the finest and specially selected ginger." He submitted that these words amounted to a warranty, and asked the magistrates to dismiss the case against Calvert. The magistrates considered that the words did amount to a warranty of the purity of the ginger, and held that Calvert was not responsible for the adulteration, and therefore dismissed the case. Mr. Dunn asked for "a case," so that the county authorities could take what action they thought necessary against the wholesale dealers. The application was granted.

At Westminster Police-court Mr. De Rutzen gave his judgment in a summons, under the sixth section of the Adulteration of Food Act, against Charles Littlewood, grocer, of Elizabeth-street, Pimlico, for selling ginger not of the nature, substance, and quality demanded. The sample purchased from the defendant at the rate of 1s. a pound contained 50 per cent. of ginger from which the pungent and aromatic qualities of the root had been abstracted by solvents for the purpose of making ginger-beer.—Defendant said he sold it as it was supplied to him, and the magistrate stated that he had no reason to doubt it. He imposed a fine of 10s. and three guineas costs.

## SPENT GINGER WARRANTY PROSECUTION.

At the Newcastle Police Court on August 10th, Messrs. Johnson, Dodds, and Co., wholesale grocers, Newcastle, were summoned under the Food and Drugs Act for having supplied a false warranty in respect to some ground ginger sold by them. Mr. Iliff prosecuted on behalf of Mr. B. Scott Elder, Durham County Inspector, and Mr. Meynell defended. Mr. Iliff said the case arose out of a charge made against a co-operative society at South Shields' Police-court, for having sold ground ginger which contained 70 per cent. of spent ginger. In the case it was proved to the satisfaction of the Bench that the society received a warranty with the ginger when they purchased it from Johnson, Dodds, and Co., Newcastle. It also appeared that the latter firm received a warranty with the ginger when they purchased it from Hanson, Son, and Barter, London, but he (Mr. Iliff) would ask for the full penalty on the ground that Messrs. Johnson, Dodds, & Co., would be able to recover the whole amount from the London firm, so that the Bench had practically the offenders before them.—Mr. Meynell, for the defence, said his clients bought the ginger from Hanson, Son, and Barter, London, with a warranty, and believed it was quite pure. When they learned that it was not so, they communicated with the London firm, and the result was that they had taken the ginger back.—Mr. Morton (in the chair) said the Bench had come to the conclusion that it was a very serious case, and would inflict a fine of £15 and costs. At the same time it was right to say that they thought Messrs. Johnson Dodds, and Co. were not to blame in the matter. They sold the ginger in perfect good faith, and there was no reason to believe that they had the very slightest knowledge of the very serious adulteration which had taken place before it reached them.

## THE CO-OPERATIVE WHOLESALE SOCIETY NOW DEFENDS SUGAR ADULTERATION.

REALLY the Co-operative Wholesale Society appears incorrigible. They fought for the right to sell water at butter price as long as they could. The Enfield Town Industrial Co-operative Society were summoned on August 13th, by Mr. Walter Tyler, a Middlesex inspector under the Food and Drugs Act, for having sold to him as Demerara sugar an article which was not of the substance, nature, and quality demanded, but was Demerara sugar adulterated with moist sugar other than Demerara sugar, coloured with yellow colouring matter.—A representative of the Co-operative Wholesale Society, giving evidence for the defence, said that in the wholesale trade sugar imported from Demerara, Trinidad, or the Barbadoes was known as Demerara sugar, and in the retail trade yellow crystal sugar, such as that which was supplied to Inspector Tyler, was known under the generic name of Demerara, though it was really moist sugar coloured to suit the wishes of purchasers, by the majority of whom it was preferred to imported Demerara sugar. The nature of the colouring matter was a trade secret; but he asserted that the colouring matter was quite harmless, and the purchaser was not prejudiced by its use. The Bench were of opinion that the purchaser who asked for Demerara sugar expected to get pure West Indian sugar, and not an article manufactured in England. It was with the latter that he was supplied in this instance, and therefore the Co-operative Society must pay a fine of 5s. and the costs, and the county analyst's fee.

## ADULTERATED TINCTURE OF RHUBARB.

At the Bradford West Riding Police-court on August 9th, Betty Womersley, grocer, of Pudsey, was summoned at the instance of Mr. Alexander Quinlan, inspector of foods and drugs for the West Riding County Council, for selling an adulterated drug. It appeared that the defendant sold in her shop a quantity of tincture of rhubarb which contained only three-fourths of the standard amount of extractive matter, and two-fifths of the standard amount of alcohol. The defendant alleged that she had bought the tincture and sold it in the same condition, in ignorance of the fact that it was adulterated. She was ordered to pay the costs, £1 12s.

At the Skipton Police-court, on Saturday, August 4th, before J. Slingsby, Esq., and other magistrates, Ann Stoik, grocer, Addingham, was summoned by Inspector A. Randerson, Skipton, for selling 3 ounces tincture rhubarb, on June 29th, which only contained about one-fifth of alcohol required in the preparation by the British Pharmacopoeia and was also wholly destitute of saffron. Defendant was fined £1 and £1 5s. 2d. costs.

## CLONAKILTY AND THE FOOD AND DRUGS ACT.

SERGEANT M'DERMOTT, local inspector under the Food and Drugs Act, summoned John Hegarty, Bealad, on August 2nd, for selling milk skimmed and adulterated with water to the extent of 16 per cent. Mr. P. W. O'Donovan, solicitor, appeared for the defendant. The complainant stated that on the 4th of last month he purchased a pint of milk from the defendant at Mr. O'Sullivan's creamery. He told him the object of the purchase. He submitted one part of the milk to the public analyst, kept the second part himself, and offered the third part to the defendant, which he refused to take. Mr. O'Donovan objected to the documents, stating that he required proofs of the sergeant's appointment under the Act. The chairman signified his intention of proceeding. Mr. O'Donovan then said he did not dispute the certificate of the analyst, but required proof of who Daniel J. Mahony was. The chairman said he was not very clear on the Act, and he would, therefore, adjourn the case for a fortnight. Mr. O'Donovan applied for costs, as the police did not bring on the case properly, but the application was refused, and the case adjourned for a fortnight. The Clerk should get Hedderwick's Food and Drugs Acts, published by Eyre and Spottiswoode.

## CONTRACTS FOR DISINFECTANTS.

## IMPORTANT NOTICE!

To Local Boards of Health, Vestries, and Sanitary Authorities generally.

THE SANITAS COMPANY, LTD., beg to give notice that they have reason to believe there are several unprincipled firms who are offering for sale more or less worthless and fraudulent imitations of the well-known "Sanitas" Disinfectants.

The various "Sanitas" Disinfectants are all manufactured by scientific processes which are protected by Letters Patent, and in order to guard against the nefarious practices above referred to, it is respectfully suggested that all contracts for "Sanitas" Disinfectants and Appliances should be entrusted to the Sanitas Company, Ltd., who are the sole manufacturers, or that a stipulation should be made making it obligatory upon contractors to supply the goods in our original sealed packages.

## THE SANITAS COMPANY, LIMITED

(G. T. KINGZETT, F.I.C., F.C.S., Managing Director)

LETCHFORD'S BUILDINGS, THREE COLT LANE, BETHNAL GREEN, LONDON, E.



## THE METHOD OF SEIZURE OF UNSOUND FOOD.

By R. SYDNEY MARSDEN, MEDICAL OFFICER OF HEALTH, BIRKENHEAD.

I AM repeatedly being asked what method we adopt in Birkenhead with regard to the seizure of meat, fish, etc.

Our method of procedure is very simple. If, on inspection at the slaughter-houses, a carcase or offal is found to be diseased and unfit for food, and the owner thereof has not made any attempt to get it away for consumption without our knowledge, we give him the option of signing one of the following forms authorising us to destroy it. If he is content to do so the matter rests there, and there is then no exposure in the law courts that can be in any way detrimental to him or his business. The form is as follows:—

### BOROUGH OF BIRKENHEAD.

HEALTH DEPARTMENT.

To the Medical Officer of Health,  
Sir,  
.....hereby authorise you to take and carry away  
.....belonging to.....now being at the.....  
Birkenhead, and request you to destroy the same as being unsound.

If, however, he is not satisfied to do this, but prefers to contest the seizure, or if we have any reason to think that there has been any attempt to "run the gauntlet" with the meat, then I at once serve him with the following notice and apply to a magistrate for an order for its destruction at the hour named therein. The notice runs as follows:—

### MEDICAL OFFICER OF HEALTH'S DEPARTMENT.

TOWN HALL,

Birkenhead.....189...

Sir,  
I have to inform you that I have this.....seized (under section 116 of the Public Health Act, 1875) at..... Birkenhead, the.....of a.....belonging to you, and unless in the meantime you consent to its destruction, which you may do by calling at this office or by sending your consent in writing, I shall apply to a magistrate for an order at the Police Court.....as soon after.....as the application can be heard.

I am, Sir,

Your obedient servant,

R. SYDNEY MARSDEN,

Medical Officer of Health.

To.....

In all such cases the owner is given the opportunity of having expert witnesses to examine the meat before it goes into court, for the purpose of rebutting any evidence we may bring, if the magistrate chooses to hear them. But when such a course is taken, if the magistrate orders its destruction, a prosecution generally follows, as it is regarded by us as a deliberate attempt to put bad meat on to the market. In the case of seizures from shops or street hawkers, where the articles seized are deliberately exposed for sale, unless there is evidence of complete ignorance of the offence on the part of the parties concerned, they are not given the option of signing a destruction order, but notice is at once given to the owner that an application will be made to a magistrate without delay, and if an order is obtained a prosecution follows in every such case.

### AN IMPORTANT MEAT CASE.

During the year the important meat case of "Bater and Williamson v. the Corporation" was heard and decided, which has set at rest certain disputed points with regard to the seizure and inspection of meat under sections 116 and 117 of the Public Health Act, 1875. The chief points of the case may be stated as follows:—The case arose in connection with the seizure of a carcase of beef which I made at the Woodside Lairages, Birkenhead, on the 23rd August, 1892, and which led to a judgment of considerable importance to Sanitary Authorities. The animal in question had been affected with Texan fever, or Redwater, and had been in a moribund condition before death. It was killed on a Sunday because of its evidently diseased condition, by order of the Veterinary Inspector of the Agricultural Department of the Privy Council. The meat was ill-bled, the vessels congested, the flesh very dark in colour (almost chocolate brown) and the fat deeply bile-stained. The kidney fat was congested and red, and the carcase had not set properly. When the flesh was cut it was sodden and soft, it smelt of urine, and there was moisture diffused in the connective tissue between the muscles, with patches of extravasation of blood here and there amongst it.

On an application being made to a Justice for an order for the destruction of the carcase, the appearances above described were sworn to in evidence by five expert witnesses, every one of whom had had very large experience as experts in the examination of meat. In opposition to our evidence, the owners called a wholesale butcher, who said he was a butcher of forty years' experience. The meat, in his opinion, was perfectly fit for food; there were no signs or indications of disease of any kind about the meat. He had himself eaten a piece of the raw flesh. Another wholesale butcher of forty years' experience also said he considered the beef was good

and fit for food. He agreed generally with the first witness, but would hardly go so far as to say that the meat was really first-class beef. A medical man (a member of the Health Committee), also went into the witness box, and said he thought the meat was fit for food, but admitted he had not had much experience in meat inspection. The magistrate at this stage of the proceedings said "he would not trouble the defendants to call any more witnesses, as, after hearing the evidence given by such *practical, not merely scientific*, witnesses, and considering such experience as that of the two butchers, he could not make an order for the destruction of the carcase." And now comes the point at issue. The magistrate having refused to order the destruction of the carcase, the defendant butchers refused to take it back, and laid a claim against the Corporation for its full value, estimated at £18, and also for the amount of their costs in appearing before the Justice in opposing the application for destruction, stated to be £65 11s. 6d., or a total claim of £83 11s. 6d. The Corporation repudiated all responsibility for the carcase, except so far as it had sustained damage whilst in their possession, and also repudiated all liability for costs, on the ground that the action was an *ex parte* action, in which the defendants had no legal right to appear, except by courtesy; and, thirdly, on the ground that this was not a matter which section 308 of the Public Health Act, relating to compensation, was intended to cover. And under any circumstances the Corporation contended that the expenses claimed were excessive. The parties not being able to agree, the matter had, under Section 308 of the Public Health Act, 1875, to go to arbitration to be settled; and before the Arbitrators could arrive at a decision the whole of the evidence had to be gone into again and the witnesses re-examined, each side appearing by counsel, with a doubling of the expenses already incurred. These proceedings occupied two days. The several questions raised being of an important and novel character, the Arbitrators and Umpire were asked that in making their award they would make it in the form of a special case which could be set down for argument before the Divisional Court of Queen's Bench.

The Arbitrators awarded as follows:—

1. That in the event of the butchers being entitled to throw back the carcase on the hands of the Corporation, and to claim its value in full, they were entitled to £11 instead of £18.
2. If not entitled to refuse to receive back the carcase, they were entitled in respect of depreciation to the carcase to £4 2s. 6d.
3. If the claimants were entitled to costs before the Justices, the Arbitrators assessed these at £29 18s. 6d. instead of £65 11s. 6d.
4. The Corporation were to pay the costs of the award, amounting to £27 3s. 6d., and each party was directed to bear their own costs of the reference.

This award having been set down as a special case, the Corporation appealed to the Divisional Court for a ruling in the matter, and the case was argued before Mr. Justice Wills and Mr. Justice Charles on the 19th April, 1893. In giving judgment, the Justices commented upon the unsatisfactory manner in which the sections of the Act of Parliament were drawn, but in the end decided:—

1. That the butchers had no right to refuse to take back the carcase, and were only entitled to the amount of the depreciation as awarded, viz.—£4 2s. 6d.
2. That the butchers were entitled to *full* compensation under section 308 of the Public Health Act, and should therefore be paid in respect of the costs incurred by them in the police-court proceedings, the sum of £29 18s. 6d.
3. That the butchers were entitled to their costs in the special case, viz.:—£47 6s. 2d.

In making this award, however, the Justices laid down another very important point. They said: "It has already been decided that the defendant (that is, the butcher or other person from whom the meat has been seized) is not entitled to be heard upon the application to condemn the meat." "It is clear that if the magistrates were arbitrarily to choose to say, 'I will not hear you, I am quite satisfied from my own inspection, or from what has been told me, or from any other reasonable way of satisfying myself, that in the language of the Act it appears to me that the meat is bad, and I do not want to hear you, and I will not hear you or your witnesses,' it is clear that the condemnation might yet be good." But they further went on to say that it was natural that the defendant in such a case should want to be heard, and to show the magistrate that his meat was not bad, and also that it was only fair to him that he should be heard; and if the magistrate, although he was not bound to do so, thought fit himself to hear the defendant's evidence, and it resulted in the meat not being condemned, that *then* the defendant is entitled to the costs of his attendance upon such an occasion, and that these costs ought to be included in the "full compensation" which Section 308 of the statute gives to them. With the object of obtaining a *final* decision on the reading of the sections of the Public Health Act, the Corporation appealed from this judgment upon the question as to whether the words "full compensation" in Section 308 could be held to cover the claimants' costs relating to the proceedings in the police-court. The appeal was heard on the 30th May, 1893, before Lord Esher, Master of the Rolls, Lord Justice Bowen, and Lord Justice Kay, when the judgment of the lower Court was sustained, and the appeal was dismissed with costs. It will be seen that this decision places sanitary authorities in a very serious position, especially in such cases as Birkenhead, where some 5,000 beasts are slaughtered weekly. If any Medical Officer of Health or Inspector of Nuisances seizes a piece of meat,



fruit, etc., and applies to a Justice for an order for destruction, they may be met by a whole array of witnesses, *expert or otherwise*, who may, and in many cases would so impress an ordinary Justice of the Peace that he would feel a doubt in his mind, and be unable to make an order in face of the evidence which could be put before him. The Sanitary Authority would then have to pay all the costs of depreciation, or alleged depreciation, and perhaps an enormous amount in respect of costs incurred by the owner in opposing the application for destruction. And as the law now stands, unless the Sanitary Authority paid the *whole* claim, however extortionate, the only means by which the "full compensation" can be determined is by the very expensive, tedious, and unsatisfactory process of arbitration as described above, in which the Umpire might be a butcher or some other person interested in the points at issue, and possibly biased accordingly. If therefore, the law is allowed to remain as it is at present, it will be seen there is a very strong inducement for Sanitary Authorities to be very lax in the performance of their duties respecting the inspection of food, as in every case of seizure they are liable to be involved in very heavy expenses, which in some cases, especially the smaller Local Boards, they are very unable to bear. It is therefore clear to my mind that some alteration of the law is urgently called for, and I am of the opinion that that alteration ought to be in the direction of giving the Magistrate who had power to condemn the meat the power also over any costs legitimately incurred in the proceedings taken by the successful party to defend himself against attack.

## THE SELECT COMMITTEE ON ADULTERATION.

VI.

(Continued from page 256.)

But the department represented by Mr. Thomas, who gave evidence here the other day, would be informed, I suppose, by your department of the work done by you in connection with the Sale of Food and Drugs Act?—He would get that out of the Commissioners of Inland Revenue's annual report, which would be sent on to him.—But you have had no direct communication with him?—None.—I showed you another case just now, a vinegar case, in which the certificate was handed in from your department. That was as to whether the vinegar stated to be a malt vinegar mixed with 8·0 per cent. of diluted acetic acid and sold as an article guaranteed to be pure and wholesome, compounded from malt saccharine matter and pure acid, which formed the chemical basis of all vinegar, was guaranteed free from sulphurised acid poisons or deleterious matter; what was your report as to its adulteration?—It was referred to us, I think, as a malt vinegar, and, therefore, we had to examine it to see whether it was a malt vinegar or not. We examined it as accurately as we could, and we came to the conclusion that it was a malt and sugar vinegar to which acetic acid had been added.—How do you estimate your percentages here; how do you differentiate between the malt and sugar vinegar and the acetic acid?—The acetic acid is nothing in the world but acetic acid and water, and contains no mineral matter at all. When you come to sugar it contains a certain quantity of mineral matter, but a different kind of mineral matter from what you find in malt; and then from the composition of the sample from the distillate, and from other physical appearances and indications (we take them altogether), we come to a conclusion as to what quantity of acetic acid has been added to that particular sample. We came to the conclusion, if I remember rightly, that one-fourth in that case had been added.—Again here a great deal would turn in assumptions, would it not, in such an analysis. I notice that you speak of the amount of phosphoric acid?—That would come from the malt.—And from the amount of phosphoric acid you would estimate the malt?—Yes.—Was the other saccharine matter nitrogen?—You will find also that there is alcohol present in it, too, if I remember rightly.—But I suppose that pure malt vinegar would vary considerably in the amount of alcohol and phosphoric acid?—It all depends upon the question of malt vinegar, because malt vinegar is made now from malt and grain; it is not made from malt only.—Do you think that a pure malt vinegar is not made from simple malt?—In the vinegar trade they have followed the same line as the brewers. At one time brewers were compelled to make beer from malt only, and then they were allowed to use malt and grain, or malt and sugars; the vinegar brewers have gone in the same line.—There is another point upon which, perhaps, you can give us information, namely, as to what is contained in vinegar without any prefix. If the article is sold as vinegar, has it been decided what it must be? I think it depends very much upon what country you are in, because in Scotland the white vinegar is generally used.—Mr. Frye: And in Ireland too?—And in Ireland too. It is generally acetic acid and water. The judgment of the Recorder of Birmingham is that that is not vinegar at all.—Sir Charles Cameron: Do you not think that a very useful portion of the functions of any chemical court of appeal is to define words in common use in commerce. For instance, it is but fair that the traders in vinegar (the retailers) should know what "vinegar" means?—I think that the great difficulty about that is due to the fact of experts fixing these particular points. There is no doubt that commerce goes a great deal faster than experts do; so that you have to take carefully into consideration that you do not fetter trade.—That is true; but at present the experts give their evidence before judges who in different localities decide differently.

Is not that so?—Yes, it is so.—And is it your opinion that it would conduce to convenience if the experts advising a Government Department were to issue under order definitions of common articles that might be varied from time to time?—They must be varied from time to time, and very often.—Do you think that would work?—It might work.—For instance, if the Inland Revenue were asked to lay down a definition of what constituted "vinegar," whether a solution of acetic acid was comprised within the word "vinegar," they would consult you and other experts and issue that order. Does any objection present itself to you to such a proceeding?—May I answer your question in another way?—Certainly?—A peculiar point about the Inland Revenue is that any person who makes a vinegar that is fit for human consumption is a vinegar maker, and has to take out a licence; so that these poor unfortunate creatures on the one side are charged with licence duty, and on the other side they are not allowed to sell the stuff that they make.—Are the men who make dilutions of acetic acid charged for licence?—Any person who makes acetic acid that is fit for human consumption is a vinegar maker under the excise laws, and must take out a licence because so far as the Revenue is concerned it is held to be vinegar.—But supposing one jar were sent in to you for analysis in the capacity of excise officers you would declare at once that it was vinegar; and if asked to give an analysis with reference to a court you would guard yourself?—We have done it in this way: The reference to us is for a particular purpose, in relation to a particular offence, and we have to see the cause why that is referred to us. For instance, it would be referred to as wood vinegar, and then we should have nothing whatever to do about anything else but to give a correct analysis and say whether we have come to the conclusion that it is vinegar. It is the magistrate who has to decide; he administers the law; we do not.—Are you aware of any contradictory decisions having been given upon the point?—There was a white vinegar case in Scotland, if I remember rightly, and naturally as soon as that came before the court the case was dismissed.—Whereas the contrary has been the case in England?—Yes.—So that that simple point of what is vinegar has not yet been decided?—There is another case, if I remember rightly, about the definition of "vinegar." I think there is a stipendiary magistrate in the Midland counties who stated distinctly that he would not recognise any vinegar except that of the Pharmacopœia, and that is vinegar made from a mixture of malt and grain.—Mr. Frye: Vinegar may be made from sherry, I suppose?—Yes, certainly.—Would that be just as wholesome as malt?—Yes. But that definition would exclude the whole of this vinegar entirely.—Mr. Channing: Is that exclusively from malt and grain without the addition of acetic acid?—Yes, it is fermented exactly the same as beer, and the alcohol is converted into acetic acid.—Sir Charles Cameron: That would be the proper way of treating vinegar as a drug if it were asked for?—Yes.—As a matter of fact, if it were asked for would it be asked for as acetic acid?—It is remarkable that when we come to vinegar of cantharides, the second vinegar of the British Pharmacopœia, that is to be made with acetic acid.—I wanted to ask you some questions about standards. You told us about your standard of milk. I think you said that you had adopted 2·70 per cent. of fat?—2·75 is the limit.—And of solids 8·50?—8·5.—Are your standards made known to, say, the public analysts throughout the country, or if they wish to know your standards do you make any secrets of them?—We do not. The word "standard" is a very awkward word to use.—Take limits if you prefer it. For instance, I heard a very distinguished public analyst the other day state that in certain cases when an application was made for your standard (by which I think he meant the same as you mean by limits) it was refused?—I know I have supplied the limits of milk to a number of gentlemen, public analysts.—Have you supplied the limits of butter?—We cannot do that.—Have you not fixed any limit for water, for instance?—We have not.—Have you had many cases referred to you?—No; we have had one or two lately, and we have also had a communication from the Irish Government in connection with water in butter.—In this report, I think, one gentleman refers to some Irish butter containing 19 per cent of water as being decided by the standard adopted by Somerset House?—I can only tax my memory, I cannot be quite certain; but if I remember rightly that 19 per cent of water was really in a sample of butter made in a private house years ago.—And you have not adopted any water standard at all?—No; but we have stated distinctly to the Irish authorities that we think that when the butter comes with over 16 per cent. the water ought to be limited to that or close upon 16 per cent. in a tub of butter.—Mr. Kearley: Dr. Bell, I think, expressed the opinion many years ago that anything in excess of 16 per cent of water should not be considered a pure butter?—Yes, some years ago.—It is recorded in his little book, I think?—I will not be sure of that, but I know that the statement has been made.—Sir Charles Cameron: That is a matter of opinion; but do you agree to the principle of fixing a standard of water in butter?—It is very difficult to say that I agree, because, of course, when you come to three or four different kinds of butter, take Irish butter, for instance, the limit there never exceeds something like 14 per cent., and some of it is down to 14½. If you made a limit or standard of 16 or 17 per cent. there would be an inducement to put more water into it than there ought to be.—But does not the same principle hold good with regard to milk. You have fixed your limit of 8½ and 2·75, and you have made that standard known, I think?—I think there is a slight difference between



butter and milk, because milk is a thing which has to be quickly consumed, and butter is a thing that lies on hand very often for some time.—I ask you more as a practical point, because the Glasgow Dairyman Association wrote to me some time ago asking me in connection with the Bill, which I then had before the House, whether it would not be possible to fix a standard of 3 per cent. of fatty matter in milk, because he said that the Somerset House standard was so much lower than what a dairyman should send in that they thought it would be for the advantage of the public if a higher standard were granted, and if the farmers supplying milk under that standard were obliged to increase the fat?—It could be done, no doubt, but I think it would be a very great grievance with many.—What I mean is that your standard is known?—The limit of 8·5 and 2·27 is known.—And if there is any temptation to watering down to that either in milk or butter they have, at all events in the milk case, your standard?—Yes, they have.—They have not in the butter case; you have not fixed any standard?—We have not.—Cases have been submitted to you, I suppose, of disputed results in butter?—Of water?—Yes?—I think we have had one or two cases about the limit of moisture in butter.—You do not remember what the percentage was?—What we had to do with was the excessive quantity of water, and of course we had nothing to do but to say what quantity of water there was in it.—But you had not to pronounce whether it was pure butter or not?—No.—Mr. Kearley: How did you make your standard known? I understand you to say that it was known in milk?—If any gentleman writes about it we send him word. You do not communicate it authoritatively to the public analysts?—We do not consider that we have authority to do anything of the kind, because they are an independent body altogether, and they might think it was dictation. We do not withhold it, but we do not communicate it.—Mr. Channing: But it becomes generally known through these test cases, does it not?—Yes.—Sir Charles Cameron: In connexion with that subject I should like to know your opinion as to the desirability of extending the system of standards on even recognised limits. You have a legally enacted limit in the case of spirits, have you not?—Yes.—Will you please state to the Committee what it is?—In the Act of 1879 it is 25 per cent. in the case of brandy and rum and whisky, and 35 per cent. in the case of gin. But unfortunately, I think, we have got a greater percentage of adulteration in spirits than in any other thing that we have.—Do they put in more water?—They seem to get as close down to it as they can. They generally overstep the line. In the whiskies, gins, and brandies we have examined 33 samples, and the percentage of disagreement is 45·4.—What they have done is this: they have brought down the spirit to 25 and 35, and then the extractive matter, or what is called the obscuration, in many cases has not been taken into account, and when it is taken into account it is just above the line. That is where many of the disagreements have arisen.—Do you say that spirit samples which have come under your observation for excise or other purposes are diluted down below the limits?—For excise purposes we do not take the point of dilution, because the spirits are kept in warehouses, and we are careful that no one gets access to the spirits until they are taken out for consumption, when they come before us in cases of reference under the Sale of Food and Drugs Act.—And only in those cases?—Yes.—You do not appear to have had a very large number of cases?—No.—There is another article in which you have a standard fixed, that is butter. The standard fixed is absolute purity, free from anything?—Yes.—Sir Charles Cameron: You have a standard in butter. The standard of butter is that so far as regards the admixture of margarine or anything of that kind, it is perfectly pure?—Yes.—You have not got, as you have told us, a water standard?—We have not.—But you have got a known standard and a published standard with respect to milk, and this standard with regard to spirits?—Yes.—Do you think that that system might not be extended?—I think that if it were to be extended to butter the probability is that you would have a very much larger amount of adulteration than you have at the present time.—But you have got a standard of butter?—I am talking now of foreign fat, not of water in butter, because the butter itself varies so much in composition that if you were to try to fix any particular standard figure it would give such a margin for the introduction of foreign fat that there would be great difficulty in working it out.—I did not suggest that, but you have a standard of absolute purity fixed in the case of butter?—Yes.—And you have a standard of dilution fixed in the case of spirits?—Yes.—And you have a standard, the result of your researches, fixed in the case of milk?—Yes.—And I think you have a standard of moisture in the case of tobacco?—It must be under 35 per cent.—Do you think that that system of publication of official limits might not assist in bringing about something like uniformity in the administration of the law?—It might bring us uniformity in the way of analysis. Whether it would give satisfaction to producers is another thing. I do not think it would in many cases.—I do not speak of it with regard to its giving satisfaction to producers, but with regard to adulteration cases. Take, for instance, this case. The analysts of Manchester or Birmingham, knowing your standard, will not recommend proceedings in a milk case which comes up to your figure?—No.—In a spirit case he will not recommend it; he will not attempt proceedings where the amount of dilution is not more than that prescribed by law?—No.—What I wish is the opinion of yourself, as a member of a very important department, as to

the possibility of extending this system of known standards so that the analysts in different parts of the country might work on something like the same lines?—As far as the analysts are concerned there is no doubt that the establishment of standards would certainly bring in unity, whereas sometimes there is discord at the present time; there is no doubt about that.—And they do make standards for themselves, and then you make other standards for your department, or of a central department; would such a standard set up by a central official department be more convenient and more just on the whole than a standard which may vary with the taste of each individual?—There is no doubt that it would be easier to do.—It is proposed, as you are aware, that there should be some central department?—I have seen the statement in the draft Bill.—Assuming that such a central department were set up, do you think that there would be any difficulty in at all events very largely extending the list of articles in which a recognised standard might be published?—I think there would be considerable difficulty. There is no doubt that, so far as the establishment of standards is concerned, if the standard were equal it would be a great deal easier to work the Adulteration Act so far as the analysts are concerned; but it is quite another question for the producers; they would have something to say to that too.—But do you think it is desirable to apply the same principles, so far as possible, to all classes or articles?—Evidently, as far as you can, as long as they do not conflict with other interests.—Then what I ask you is whether you have considered that the same principles as are applied to spirits and to milk and butter (that is to say, the fixed definitions of standard) could not be extended to a number of other products?—Certainly it could.—You have come to a standard of the composition of milk; as an honourable Member did not exactly catch what you said, would you please give the official limit, including the water—the Somerset House limit?—It would be in this way: in 100 parts 8·5 per cent. of solids not fat, fat, 2·75 per cent. of fat, and 88·75 of water.—I want to ask you a question as to whether you have had any references to you under the first couple of sections of the Act of 1875 in regard to articles mixed with ingredients that are said to be injurious to health?—No. We have had no references as to any question of that kind.—Neither in food nor in drugs?—No.—Have you had any references as to drugs?—Only a few. We have only had a reference in what is scarcely to be called a drug, and yet you cannot call it anything else, namely, sweet nitre; we have had four references in sweet nitre.—How does that crop up so often? Because the ordinary sweet nitre of commerce is different from the spirit of nitrous ether that is mentioned in the "British Pharmacopoeia.—Do you know what view the magistrates took on that point, whether the sweet nitre of commerce was not a sufficiently well understood term?—The view of the magistrates, I think, turned entirely upon what was asked for.—To come to another point in regard to which the Act has been well worked, has it not; that is, coffee?—Yes.—I want to ask you a few questions about coffee mixtures. In the first place, is it possible by analysis to determine very accurately the amount of coffee and chicory respectively which are contained in any mixture?—No, it is very difficult indeed.—I heard the other day a very distinguished chemist, Mr. Hehner, state that the percentage of soluble matters in chicory appears to have increased during the last 10 or 15 years, and that it had become necessary to make allowance for that increase in modern analyses. Has your attention been called to anything of that kind?—Yes, it has. There is no doubt that there is a greater extractive got from chicory now than there used to be 10 or 15 years ago.—Is that agreed among chemists, or is it owing to your improved methods of analysis?—It is on account of the difference of growth, I believe.—Mr. Frye: That the quality of chicory has improved?—It contains more extractive matter.—Sir Charles Cameron: I suppose you are obliged to adopt a different standard of extractive matter as indicating the percentage of chicory?—The difficulties in regard to coffee and chicory mixtures arise in this way: that in different descriptions of coffee the extractive matter is greater in one kind than in another, and from examining the mixture you cannot trace back what kind of coffee there is in the sample. You are aware that there is a certain quantity of chicory there, because you can see it under the microscope, but you cannot tell the exact amount of extractive matter that there was in the chicory that has been used. Consequently we have two unknown points to deal with in trying to settle about the percentage of the mixture, and we cannot do it, of course.—In connection with the analysis of coffee mixtures, have you had many references to Somerset House?—I think not; but I think I can tell you the number. It is 18 and 8·26.—In how many have you agreed or disagreed?—In eight cases we have disagreed.

(To be Continued.)

#### ANSWERS TO CORRESPONDENTS.

CHICHESTER.—Thanks for report.

BIRMINGHAM.—Cases received; much obliged.

ENFIELD.—We agree with you that the ethics of present-day co-operation would surprise Hughes and Neale; as to Holyoake—"perhaps! perhaps not."

GROUND GINGER SWINDLE.—Yes. As to honey, we question if the game is worth the candle.



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## Food and Sanitation.

SATURDAY, AUGUST 25TH, 1894.

### "SANDED GINGER AND SPENT PATIENCE."

It was only to be supposed that the Government analysts, who by patient plodding discovered a cow so starved and miserable in condition that it yielded a lacteal fluid approximating more closely to water than to milk, and who, on the strength of this find planted their standard of 2·50 fat in milk, without having the consistency to adopt as a motto—which should be deeply carved over the Somerset House laboratory—"Let Thieves Flourish," would not be unwilling to lend their aid to propagating the sale of the poorest possible qualities of ginger, or of ginger mixed with percentages of spent ginger, as a genuine article. The following certificate may, it is to be hoped, open the eyes of traders and food purists. It will come as a rude shock to the many manufacturers who have believed that the Somerset House chemists were not desirous of rendering the suppression of adulteration impossible. The certificate, in question, which was produced at the Bingley Police-court on August 15th, speaks for itself.

Government Laboratory, Somerset House, London, W.C.

Sir,—The sample of ground ginger sent with your letter on the 1st inst. was duly received. It was marked No. 346, and was securely sealed.

We hereby certify that we have analysed the same, and declare it to contain 8·82 per cent of mineral matter, of which 2·11 is sand. The total amount of sand and other mineral matter present in the sample is high, and would be regarded as excessive if found in high-class ginger which had been washed before being ground. But the results obtained are not greater than are sometimes found in low-priced ginger which has been ground as imported.

We are of opinion that the sample in question affords no evidence of the presence of sand or extraneous mineral matter other than that present in unwashed ginger.

As witness our hands this 9th day of August, 1894.

(Signed) R. BANNISTER.

The Clerk to the Magistrates, Bingley. H. J. HELM.

Mr. Hiley (who appeared on behalf of the West Riding County Council) submitted that he was entitled to judgment, inasmuch as it was not proved by the defence that the ginger in question was unwashed, and said: I don't think there was any evidence given as to price. The can produced bore the words "Pure ground ginger."—The Bench gave judgment for the defendants, the Chairman intimating that it would be better for people to buy a high quality of ginger.—Mr. Hiley said it was a matter

for regret that the Somerset House authorities did not word their certificate a little more explicitly.

We quite agree with Mr. Hiley's protest, but we will go further and say that the food supply of a country which has to rely upon a broken Bannister cannot be other than in a lamentable condition, and the public that have to trust to a helpless Helm when voyaging in search, even of pure ginger, are much to be commiserated. Possibly, after this exhibition, manufacturers of pure food stuffs will be able to sympathise with the grievances of capable analysts, whose certificates are swept aside for the admission of ignorant rubbish from Government incapables.

But why did not Mr. Hiley raise the point that a Somerset House certificate is *only an opinion*, and that magistrates may treat it with contempt if they choose. Unless such a course be adopted we shall be having dust, counter-sweepings, and the like, sold as genuine ginger—an easier and even more profitable game than the spent ginger swindle.

### BUST UP OF A SOMERSET HOUSE SAMPLE.

At the Enfield Petty Sessions on the 27th July last, William James Inge, of Oaklands Dairy, Enfield Highway, appeared on remand to answer a summons charging him with having sold as new milk, an article from which 25 per cent. of cream had been abstracted. The case was first heard on July 2nd, when evidence was given that the defendant himself was selling the milk in the road when Mr Tyler's assistant bought a pint of him for 2d., and one-third of it was analysed by the county analyst with the result alleged. Defendant said the milk in question came from his own cows, which he milked himself about an hour before the inspector took it, and he therefore knew it was genuine. The Bench adjourned the case in order to have another portion of the same milk submitted to analysis at Somerset House, and a second sample was therefore sent up; but it appeared from a communication received from Somerset House that the bottle containing the sample burst almost directly after delivery. Mr. Avery, who now represented the defendant, asked that the Bench would order the third sample left with the defendant to be submitted to analysis at Somerset House, where the defendant had already taken the sample, but the authorities would not analyse it without the order of the Bench. The Bench, however, held that the defendant having had ample time should have had his sample analysed by his own private analyst. At present the only evidence before them was that the cream had been abstracted, and the defendant would be fined 10s. and costs.

### MILK MINUS THE "STRIPPINGS."

At Enniskillen Sergeant Sheridan, inspector of Food and Drugs, prosecuted Mrs. Wilson for having, on July 11th, supplied sweet milk to the Enniskillen Workhouse, which milk, according to the certificate of Sir Charles Cameron, had been deprived of 22 per cent. of its fats or cream, and was therefore "debased."

The evidence given was very clear. Mrs. Wilson proved that the milk as it came from the cows went to the workhouse; that as it was milked at 7 o'clock there was no possibility of cream being abstracted, as it was delivered at 8 o'clock, and had to be carried two miles; that there was no cream separator on the premises; and that it yielded  $\frac{1}{3}$  of cream by the workhouse test, while the test in some unions was as low as  $\frac{1}{10}$ ; but it was also elicited that this milk did not include the "strippings." The Court was of the opinion that Mrs. Wilson did supply the milk as it came from the cows, but as it did not contain the "strippings" it had thereby been deprived of so much of the fats, and she was fined £2 and 10s. costs. Mr. Falls said he would appeal in the case.

There was also another case against Mrs. Wilson for supplying buttermilk with an excessive quantity of water in it, but it was dismissed.

Affairs looked rather mixed in this case. The first witness for the defence was Mr. Richey Wilson, and he was asked by Lord Corry if he appeared in his official capacity as clerk of the union, but he replied that he attended as Mrs. Wilson's son; the second witness for the defence was Mr. Thomas N. Gamble, master of the union. Here then were two of the workhouse officials appearing as witnesses for the defence in a matter concerning the milk supply to the workhouse. But the justices could not take exception to them, for they themselves were mixed up in that rather mixed business, the four magistrates being themselves guardians of the Enniskillen Union, and trying the case of the milk supply to themselves.



**"MAZAWATTEE" COFFEE.**

AT the Holesworth (Suffolk) Petty Sessions on August 16th, W. S. Brown, grocer, Quay-street, Holesworth, was charged with selling 3lb. of coffee, adulterated with chicory to the extent of 2½ per cent. Mr. Kick appeared for the prosecution, and Mr. Keeble for the defendant. Superintendent Andrews gave evidence as to his having purchased the coffee and dividing it into three parts, which he sealed up, disposing of them in the usual way. The coffee was sold in a tin, and was what is known as "Mazawattee" coffee, being labelled "pure," and the defence is undertaken by the Mazawattee Company. Mr. Jas. Napier, county analyst, produced the sample of coffee which he had received from the superintendent, and which he had found to contain 2½ per cent. of chicory. In the course of a brief cross-examination Mr. Napier admitted that he had never known a prosecution with so slight an amount of chicory. No one who wished to make a profit of adulteration would put so little chicory into the coffee. Mr. Keeble, for the defendant, said that Mr. Brown, as agent for the Mazawattee Company, had sold their coffee, and it was the company's desire that the matter should be thoroughly gone into so as to clear their character and to maintain their reputation. The sample left with Mr. Brown by Superintendent Andrews was sent to London, and was analysed by Dr. Bernard Dyer, of the University of London, who was prepared to state that the coffee was perfectly pure. J. S. Brown, in the employ of the defendant, gave evidence as to selling the coffee and sending the sample kept by him to Mr. Keeble. Dr. Bernard Dyer stated that he analysed the sample and found it absolutely pure. In his opinion there was not a particle of chicory in it. He (Dr. Dyer) had never known a case of prosecution with so small an amount of adulteration as 2½ per cent. Charles Swingland, superintendent of the packing department of the Mazawattee Company's warehouse, gave evidence as to the preparation of the coffee, stating that no chicory could by any possibility be mixed with it. After consultation, the Bench said they were willing to accede to an application for the sample now in the hands of the superintendent to be sent for analysis to the Somerset House chemists, on account of the difference of evidence by the two experts, and the case was adjourned till September 27th.

**PILL ADULTERATION.**

AT the West Riding Police-court, Bradford, on August 16th, John Kellett, grocer, of Wyke, was summoned by Mr. Alexander Quinlan, district inspector of food and drugs under the County Council, for an offence under the Food and Drugs Act. Mr. Quinlan stated that on Wednesday, June 27th, he called at the defendant's shop and made certain purchases. Amongst other articles he asked for a pennyworth of castor-oil pills, and was supplied by the defendant with a small box containing pills, which, according to the label, were of the kind for which he had asked. He divided the pills into three portions, leaving one with the defendant and sending another to the county analyst. The report of the official in question showed that the pills were destitute of castor-oil, the active principle being croton oil. Croton oil was a purgative, but he (the inspector) now complained that he had not been supplied with the commodity for which he had asked. Kellett pleaded that he had bought the pills in the ordinary way, and had sold them believing them to be castor-oil pills.—A fine of 10s. was imposed, and the defendant was further ordered to pay the costs. The alternative punishment was ten days' imprisonment. The chairman explained to the defendant that he had a remedy if he had been deceived by the person selling him the pills.

**SPURIOUS DEMERARA SUGAR.**

ONE of the tricks of the sugar trade was exposed by a prosecution at Enfield, says the *Birmingham Mail*. The Enfield Town Industrial Co-operative Society were fined for selling as Demerara sugar moist sugar coloured in imitation of the real article. The defence set up was that the imitation was quite as good as the real article, and fetched quite as high a price in the market. That is no justification at all. It is none the less a trick of trade. The coloured sugar should be sold for what it is. The makers would not go to the expense of colouring it like Demerara sugar unless it were to give it a spurious value, and thereby to deceive the consumer.

**ADULTERATED BREAD.**

AT the Rowley Regis Police-court on August 16th, E. Sidaway, grocer and provision dealer, Spinner's End, was summoned by Mr. Van Tromp, the inspector under the Sale of Food and Drugs Act, for selling adulterated bread. The inspector stated that the bread was adulterated with forty grains of alum to the 4lb. loaf. Defendant was unable to appear through illness, and the wife stated that she was not aware that there was any alum in the bread. The inspector said as the defendant had acted in ignorance and had recently suffered adversity, he would not press the case. The magistrates under the circumstances only inflicted a fine of 5s., including costs.

**ANTIDOTE FOR PRUSSIC ACID.**—Dr. Johann Antal, a chemist, and toxicologist of note, has reported to the Hungarian Society of Physicians that he has discovered a new chemical compound, the nitrate of cobalt, which, he says, is a most efficacious antidote to poisoning by cyanide of potassium or prussic acid. He tried the antidote first on animals, and afterwards on forty living persons who had been accidentally poisoned with prussic acid. In not a single case did the antidote prove a failure.

**SUPPRESSING ADULTERATION AT BIRMINGHAM.**

AT Birmingham on August 10th, William Massey, High-street, Bordesley, was fined 10s. and costs for selling milk which was deficient of 15 per cent. of cream; and Southgate Webb, of Warwick-street, was fined a similar amount for selling milk deficient of 22 per cent. of fat.—Ann Stanley, Deritend, was fined 10s. and costs for selling milk containing 12 per cent. of added water.—The defence in all cases was that the milk was sold in the same condition as received; and Webb called evidence to show that the milk was just as he received it. He had not a written guarantee with the milk, however, and the magistrates told him that he should get one. Had he possessed one he would not have been fined.

Thomas Gilman, chemist and druggist, Gosta-green, was summoned under the Food and Drugs Act for having sold to the prejudice of the purchaser a quantity of precipitated sulphur which contained 57 per cent. of sulphate of lime. Mr. McCordie defended. Thomas Davis, inspector under the Food and Drugs Act, stated that he visited defendant's shop in Gosta-green at 10 a.m. on July 17th, and asked the assistant, Thomas Birch, for two ounces of precipitate of sulphur. He was served, and paid 1½d. for it, and then announced his intention of submitting a portion of it to the public analyst. The assistant accepted witness's offer to divide the sulphur into three portions, and received a portion. Witness gave one portion to Dr. Hill, public analyst, who certified that it contained 57 per cent. of sulphate of lime. Mr. Fisher: What is the difference in the price between proper sulphur and sulphate of lime? Witness: I don't know; I never bought sulphate of lime. Cross-examined by Mr. McCordie: He took other samples in the shop—namely, of tincture of rhubarb and linseed—and both were correct. He had not visited Mr. Gilman's shop on previous occasions. Mr. McCordie, in defence, submitted that the sale was a mistake on the part of the assistant in the shop, and that there was not the slightest intention to defraud. There was, he submitted, no negligence either on the part of the assistant or the defendant. In January last Mr. Gilman ordered 7lb. of sulphur lac from Messrs. Blackwell and Co., and, according to counsel's instructions, it was contained in a bag labelled sulphur precipitate. The assistant did not know of the order, and naturally concluded that the bag contained sulphur precipitate. Even a skilled chemist might mistake the one for the other if he did not see them together. The retail price was the same, and Mr. McCordie pointed out that the sulphur cost about 6d. a pound, and the sale was about half a pound a month. His client was a most respectable tradesman, having been in business for over thirty years, and he had never had a complaint made against him before. Thomas Birch, the assistant, said that he supplied the sulphur from the bag produced, which was one of Messrs. Blackwell's bags. Thomas Wood deposed that Messrs. Blackwell supplied defendant with sulphur lac in January, and he identified the bags as one of his firm's. He could not say, however, that the bag was the one in which the sulphur lac in question was supplied. The Bench said they considered that greater care should be taken by chemists and druggists to see that the articles received were checked with the invoice. The defendant was responsible, and would have to pay 40s. and costs.—John Thomas Cattell, chemist and druggist, of 217, Great Lister-street, was summoned for selling tincture of senna which contained only 25 per cent. of the proper amount of solid ingredients. Thomas Davis said he purchased four ounces of tincture of senna from the defendant's shop on July 17th. He submitted the senna for analysis, and produced Dr. Hills certificate, showing that it only contained 25 per cent. of the proper amount of the solid ingredients. Cross-examined by Mr. Mountford, who defended, witness said he took four samples of other articles, and they were all correct. Mr. Mountford said the reason the tincture did not contain the proper percentage of ingredients was because the assistant had omitted to shake the bottle before serving the inspector. Mr. Fisher: That assistant deserves to be well shaken. A fine of 40s. and costs was imposed.—Aquila Baldwin, of 163, Great Lister-street, was fined a similar amount for selling tincture of rhubarb which contained only 80 per cent. of the solid ingredients. In this case it was said that the assistant had omitted to shake the bottle.

**POISONED THROUGH TINNED SALMON.**

A PAINFUL case of poisoning through partaking of tinned salmon occurred to a Whitefield family recently. It appears that Mr. Joseph Hampson, of 2, Elizabeth-street, Besses-o'-th'-Barn, and a friend named Alice Seddon, of Bury, had tea at Mr. Hampson's house, and partook of some tinned salmon. Shortly after tea the party went to Besses fair, and, with the exception of Mr. Hampson, who went to his father's house at Whitefield, returned to Whitefield, and shortly afterwards all commenced to be ill and began to vomit. Dr. Dochard and his assistant were immediately sent for, and on their arrival it was discovered they were suffering from the effects of poison. An emetic was given and brandy was freely used, and the party were soon got out of danger. After this it was discovered that Mr. Hampson was also suffering at his father's house. He had gone to the lavatory, and had been there an hour, when he was found unconscious. He was removed into the house, and after the great exertions of two doctors he recovered. All the party are progressing favourably. The salmon was purchased about a week ago, but had not been opened until a few minutes before using it.



## LARD ADULTERATION.

AT Swansea Police-court on August 10th, Mr. Viner Leeder appeared on behalf of Gilbert Williams, grocer, of Pontardawe, to urge upon the Bench that the manufacturer's guarantee stamped on bladder lard was surely enough to save the retail grocer from prosecution if the guarantee proved false. The sample of lard stated by Dr. Morgan's certificate to be adulterated with 20 per cent. of added beef fat had been sent to Somerset House, but the authorities there upheld the borough analyst's analysis. The Bench ultimately held that, unless the stamp on the card is backed by a guarantee with the invoice, the retail shopkeeper is not protected, and imposed a fine of 20s. and £1 15s. 9d. costs.

## IRISH BUTTER PROSECUTIONS FOR WATER.

AT Miltown-Malbay on August 7th, Sergeant Clinton, inspector in the district under the Act, summoned Mr. Pat Kelly for having exposed for sale a firkin of butter at the Miltown-Malbay butter market on July 6th, containing a percentage of 18.0 water. He was fined 2s. 6d. and 5s. costs.—The same complainant summoned Michael Flanagan for having a percentage of 19.0 water. Fined 3s. and 2s. costs.—Same v. Daniel Sexton. Defendant's firkin contained, according to Dr. Cameron's certificate, 23.10.—District Inspector Huggins: If your worships do not inflict severe penalties where you find the law is broken as largely as in such cases as this, you will have the butter industry going back again to its old standard.—Mr. Sexton stated he had sent on a sample of his butter to Professor Tichborne for analysis, as he believed his butter could not contain so big a percentage of water as stated in Dr. Cameron's certificate.—Mr. Kenny: It is for you to show that there was sufficient caution in the making of the butter, and that adulteration was prevented.—Mr. Sexton: My return did not come back yet.—Chairman: Your case will be adjourned till next court day.

## THE EFFECT OF FEEDING ON THE RICHNESS OF MILK.

ACCORDING to a writer in *Hoard's Dairyman*, Messrs. Van Dresser, of Cobleskill, New York State, some time ago carried out an experiment and effectually proved that the richness in cow's milk was effected by food. Four cows were first fed on a mixture of silage, wheat, bran, maize, meal, cotton-seed oil, and their own skim milk, and a little over 23lb. of their milk made 1lb. of butter. After the diet was enriched by adding fat (or tallow, as it is called) to the mixture of meal and bran, beginning with 1lb per cow daily, and increasing up to 2lb. At the end of five weeks the milk of the cows was again tested, and it was found that only 18½lb. of milk were required to make 1lb. of butter. The quantity of butter made in a week when the cows were fed on the first ration was 48lb. 9oz., and it rose to 71lb. 7oz. when they were getting the second ration, the only difference being the addition of tallow.

## STIRRING UP THE HANTS COUNTY COUNCIL.

AT a meeting of the Hants County Council on August 13, Mr. A. F. Jeffreys, M.P., urged the chairman of the Joint Committee to direct the chief constable to cause more samples to be taken under the Food and Drugs Act, and cause more prosecutions to be instituted. He pointed out that the returns submitted showed that only twenty-five samples of butter and thirteen of coffee had been taken in the whole county of Hants. Of course, he said, those numbers were perfectly ridiculous; they might as well take none at all. The whole working of the Act depended upon the police, and he urged that the Act should be more strictly enforced.

Mr. W. B. Simonds, the chairman of the Joint Committee, said it was true that fewer samples of butter and other things had been taken, but the reason was that the chief constable had in the previous year found no adulteration in the samples of butter taken, and he had this year devoted more attention to those articles where he had found adulteration to exist to the greatest extent. He thought the chief constable had used a wise discretion. He did not suppose the County Council wished the Act to be put in force in such a way that they were constantly sending to different places. Such a course would put the county to enormous expense. Every one of these cases cost something like 15s., and unless there was a chance of doing good it was obviously no use taking a large number of samples.

## THE GROCERS' ASSOCIATION AND THE PUBLICATION OF CONVICTIONS.

A LETTER has been received from the Metropolitan Grocers' Association by the Holborn Board of Works complaining of the publication by the Board of lists of convictions of offenders against the Margarine and Food and Drugs Acts. While in no way defending wrongdoers, at the same time they felt that the publication of convictions in the way adopted by the Board could be of no service to the public, while it would be no deterrent to offenders. In reply to the chairman, the clerk said that the parish of Clerkenwell also published a list of convictions under these Acts. Mr. Trenner was of opinion that the publication of such lists was a greater deterrent to offenders than was the infliction of fines. At the same time he did not see any objection to the Board hearing the views of a deputation, and moved that the clerk be directed to inform the association that they were willing to receive them. Mr. Migotti seconded the proposition, which was adopted.

## COFFEE PROSECUTIONS AT MELFORD PETTY SESSIONS.

ON August 10th, William Mayston, grocer, Lawshall, was summoned by Supt. Bardwell for selling adulterated coffee.—Defendant pleaded guilty. Supt. Bardwell stated that he received half a pound of coffee from the defendant's wife on June 19th. One-third of the same was sent to the public analyst, who reported that it was adulterated to the extent of 66 per cent. of chicory. Defendant was also charged with selling adulterated butter.—He pleaded not guilty to this charge. Supt. Bardwell deposed to purchasing 1lb. of butter from defendant's wife on June 19th. He divided it into three parts, one of which he forwarded to the public analyst, one he retained, and the remaining part he left with defendant. The analyst certified the butter to be adulterated with 5 per cent. of fat other than butter fat. Defendant produced the bill of the butter, showing that he had paid 1s. per lb. for the same, and alleged that he had submitted a sample of the butter for analysis, and handed in a certificate which certified the same to be pure. A fine of 5s. in each case was inflicted, costs 15s. 6d. The Chairman said that many complaints had reached the County Council with reference to the selling of adulterated foods, and he gave Supt. Bardwell great credit for having brought the cases forward.—Myra Turp, grocer, of Cavendish, was charged with selling adulterated coffee. Defendant pleaded guilty. Supt. Bardwell produced the analyst's certificate showing one sample of coffee to contain 54 per cent. of chicory. He was served by defendant's daughter. Fined 5s., costs 5s.

GREENWICH DISTRICT HIGHWAY BOARD AND THE FOOD AND DRUGS ACT.—Mr. Wheatley moved: "That the necessary steps be taken to constitute all sanitary inspectors in the employ of the Board, as inspectors under the Food and Drugs Act, with power to take samples, etc." It was, he said, utterly impossible for one inspector to get about sufficiently on Sunday morning to take enough samples to protect the people. Tradesmen got to know the one man, and "spotted" him.—Mr. E. J. Knight said the Board had an arrangement with the analyst by which only a certain number of samples were examined.

MR. EDWARD LARTER, grocer, of Halesworth, was charged at the Petty Sessions on August 16th, with selling as pure butter, butter which was deficient in fat to at least 4 per cent., on July 5th. Mr. J. Napier, county analyst, having given evidence, defendant was fined 2s. 6d., and costs 9s. 6d.

AT the meeting of the Bristol City Council on Tuesday, the report of Mr. F. W. Stoddart, public analyst, was presented. He stated that during the past three months exactly 100 samples had been analysed by him, fourteen of which proved to be adulterated. Of six samples of lard, four were genuine, and two adulterated with 10 per cent. of beef stearine. Two samples of margarine proved to be genuine. Four samples of mustard were genuine. Of vinegar he analysed eight samples, and of these two were adulterated with dilute acetic acid. There were five samples of Demerara sugar analysed, and of these two were adulterated with dyed sugar crystals. Of seven samples of butter, six were pure, and one adulterated with margarine. A sample of coffee was found to be adulterated with 55 per cent. of chicory.

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### CONTAINS PURE MILK, WHEAT AND BARLEY MALT.

### NUTRITIOUS, DIGESTIBLE.

### GUARANTEED ABSOLUTELY PURE.

### OF ALL CHEMISTS AND STORES.

### SAMPLES FREE.

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**SOMERSET HOUSE AND GINGER ADULTERATION.**

At Bingley Petty Sessions on August 15th, the summons of Mr. A. Randerson, district inspector under the Food and Drugs Act, against Sarah Greenwood & Sons, grocers, of Cullingworth, for selling adulterated ground ginger, again came up. The case was heard at considerable length by the Court a fortnight ago, and was then adjourned to allow of the third portion of the sample taken by the inspector being sent to Somerset House for analysis. The Magistrates' Clerk (Mr. R. E. Weatherhead) read the certificate of the Somerset House authorities, which declared the sample to contain 8·82 per cent. of mineral matter, of which 2·11 was sand. "The total amount of sand and other mineral matter present in the sample," the authorities stated, "is high, and would be regarded as excessive if found in a high-class ginger which had been washed before being ground, but the results obtained are not greater than are sometimes found in low-priced ginger which has been ground as imported. We are of opinion that the sample in question affords no evidence of the presence of sand or extraneous mineral matter other than that present in unwashed ginger." Mr. E. V. Hiley, who prosecuted for the West Riding County Council, submitted that under this certificate he was entitled to a conviction. No evidence had been presented by the defendants to show that the ginger was unwashed, but, on the other hand, a tin had been produced by them in court stating that the ginger was pure. Mr. P. Naylor, who represented the defendants, contended that he was entitled to the verdict under the Somerset House certificate. His clients had been summoned for selling ginger which contained not less than 5 per cent. of extraneous mineral matter. He submitted when the case was last before the Court that the ginger was of low quality, as was shown by the price, but that there was no offence in selling ginger of a low quality. The chairman (Mr. A. Sharp) said it seemed to the Bench that if people wanted cheap ginger they must expect to have with it a certain amount of dirt. The decision of the magistrates was for the defendants, with costs.

**THE MARGARINE ACT.**

At the Cardiff Police-court on August 14th, before Mr. Morton Bowne, deputy stipendiary, William Simmonds, grocer, Madras-street, was charged with exposing for sale a quantity of margarine without having a label containing the word "margarine" printed in letters one and a half inches square affixed thereto. The case was proved by Inspector Davies, who said the defendant traded as a grocer under the title of Simmonds and Son. On Tuesday, the 17th ult., witness visited the shop, and asked the wife of the defendant for a pound of margarine. She took from a box, on a shelf behind the counter, two half-pound packages, for which he paid sixpence. There was no label on the box, but on each wrapper containing the half-pound was printed the word "margarine" in quarter-inch letters. Defendant was represented by his son, who said all the margarine was made up in half-pound packages, and on each package was the word "margarine," and they thought that was sufficient. The Stipendiary said the offence seemed to be that the word "margarine" was not in letters one and a half inches square. Mr. Vaughan, chief inspector under the Adulteration of Food and Drugs Act, said that was so.—The Stipendiary: But the words on the package are very legible.—Mr. Vaughan: But there was no label on the box in which the margarine was contained. If the margarine had not been sold in labelled wrappers, defendant would have committed two offences. The inspector was not bound to buy the margarine. It was an offence to expose the margarine without a label affixed describing the article. The Act stated that the label must be in letters one and a half inches square. Mr. Simmonds produced a large square box about three inches deep, on the lid and front of which was branded the word "margarine" in letters one and a half inches square. He said every box was branded in like manner as that produced. Witness said he saw no brand on the box from which the half-pound packages of margarine were taken. There was no lid on the box. The Stipendiary said if the whole of the lid was

off, then there would be nothing to show that the article in it was margarine. The Magistrates' Clerk said the Act distinctly provided that the customer should see what he was buying. Mr. Vaughan did not press for a heavy penalty. The majority of the grocers in the town had metal labels containing the word "margarine" affixed to the article. The Stipendiary said the defendant had committed an offence against the law and he must pay 2s. 6d. and costs.

At the Harlesden Petty Sessions on August 16th, James Ballard, grocer and provision dealer, of Stonebridge, Willesden, was summoned for exposing margarine in a packet that was not branded, and also for selling a quantity in a package that was not branded. Inspector Watts, Middlesex County Council, said he called at defendant's shop, and, amongst other purchases, he had a quarter of a pound of margarine. There was no label on the tub from which it was served, and the paper in which it was served was not branded. Mr. Bird said as it was defendant's first offence, he would only be fined 10s. in each case.

**LARD PROSECUTIONS.**

At the Police-court at Penarth on August 13th, Mr. John Williams, grocer, Maughan-street, Penarth, appeared in answer to a summons, issued by the police, charging him with selling lard in an adulterated state on July 2nd last. Police-inspector Ruten, in the course of his evidence, stated that on the date named he visited defendant's shop, and asked Mrs. Williams for half a pound of pure lard. He was supplied, the article being cut from a fresh bladder, and on being handed to him he paid threepence halfpenny for the same. The officer then proceeded to divide the lard supplied to him into three parts, which were duly put into three bottles and sealed up, being marked "No. 9 G."—one he handed back to Mrs. Williams, stating that the purchase was intended for the purposes of analysis; one he forwarded to Mr. W. Morgan, of Swansea, the county analyst; and the third he retained himself. On July 17th he received a reply from the public analyst, whose report, which he now handed to the Bench, showed that the lard, which was sold as of pure quality, contained 20 per cent. adulteration by the introduction of foreign substance. Defendant, addressing the Bench, said he was not guilty, and he wished to have an opportunity of defending himself. Addressing the prosecutor, Mr. Williams asked whether he had properly understood him to say that the bottles were labelled "No. 9 G." Inspector Rutter replied in the affirmative, whereupon Mr. Williams remarked that this was not the case, because the bottle in his possession was marked "No. 5." Inspector Rutter explained that this was the number of the division, and that the mark "No. 9 G." was on another part of the bottle, as was proved by subsequent examination. The defendant then explained that when he bought the lard he was assured that it was pure lard. "Pure lard" was also stated on his invoice, and the bladders and buckets were likewise stamped "pure lard." He also paid for the article as of pure quality, and he therefore sold it as such.—The Magistrates' Clerk: Have you a written guarantee from the manufacturers that it was pure lard?—Defendant: The only guarantees I have are the statement on the invoice and the stamp on the bladder and bucket.—The Magistrates' Clerk: You ought to obtain a written guarantee definitely stating that the lard was, as represented to be, pure lard. Unless you do this you are liable in the eye of the law.—Defendant: I sold it just as I had it.—The Bench: We have no doubt about that, but still you ought to have protected yourself by obtaining a guarantee.—Major Thornley, in announcing the decision of the Bench, stated that a man of defendant's experience should have ascertained for himself what the law on the matter was. He could not expect the public to teach him his business, and it was his duty to see that he was not imposed upon by those who supplied him with goods. In the present case there was no doubt that he had sold an inferior article for pure lard, whether he was aware of the fact or not. The Bench would, however, take the extenuating circumstances into consideration, and would only fine him 20s. and costs, in addition to the analyst's fee.—Mr. Llewellyn Wood (to the defendant): You must in future

# CHAMPION'S MUSTARD

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## MUSTARD SEED ONLY.

**CHAMPION & CO.,** so far as they are aware, are the only makers of importance who  
**DO NOT MAKE AN ADULTERATED MUSTARD.**

**CHAMPION & Co.** confine their attention to selling only Genuine Mustard Flour, milled and manufactured from Mustard Seed. They frequently sell 20,000 tins of such Mustard in a day in London alone.

To make **CHAMPION'S Mustard**, it is essential to use only the finest Mustard Seeds, inasmuch as chillies or ginger cannot be employed to produce pungency, nor can turmeric be utilised to secure high colour; consequently ripe and perfectly-coloured Mustard Seed only can be used.



see that you get a proper guarantee from the firms you deal with.—The Defendant : Thank you, sir, I will. A representative of the firm of Messrs. Isaacs, of Cardiff, appeared before the magistrates at a later stage of the sitting, and asked for an adjournment of the case for a week for the production of evidence proving that the lard was of pure quality and was sold as such by his firm. Major Thornley said the case had been disposed of and could not be reopened. If, however, a re-hearing was required, notice of appeal might be given.—Messrs. Isaacs' representative : Then I give notice of appeal.—The Magistrates' Clerk : You cannot do so ; it must be done by the defendant.—After a further consultation, the matter was allowed to stand in abeyance for a week with the view of the firm being consulted as to having the case reopened and again gone into in full.

At the Caerphilly Police-court on August 14th, before Dr. Llewelyn and a full Bench, George Emerson, grocer, Ystradmynach, was summoned for selling adulterated lard. Deputy Chief Constable Jones, Pontypridd, said that he visited the shop of the defendant at Ystradmynach on May 29th, and purchased a pound of lard, for which he paid 7d. The usual sample was sent to the county analyst, and it was found to contain 9 per cent. of stearine or beef fat. The defendant stated that the manufacturers of the article were going to challenge the certificate, and in order to enable scientific witnesses to attend he applied for an adjournment. The Deputy Chief Constable offered no objection, and the case was accordingly adjourned until October.

At Bristol Police-court on August 15th, Mr. Thomas Wood, grocer, carrying on business at 1, Hill-street, Totterdown, was summoned on an information laid under the Sale of Food Act for having sold a quantity of lard which was not of the substance demanded by the purchaser. Inspector Drew proved the case, and stated that a portion of the lard purchased was subjected to analysis by Mr. F. W. Stoddart, the public analyst. The certificate of the analyst which was put in showed that the lard was adulterated with not less than 15 per cent. of beef stearine. Mr. Mawer (Clifton and Carter) appeared for the defendant, who pleaded guilty, and the magistrates fined him 10s. and costs.

## THE SELECT COMMITTEE ON ADULTERATION.

### VII.

(Continued from page 264.)

Is that more or less than the ordinary percentage of your disagreements?—It is about the same ; it is a little higher than the ordinary disagreements.—I think you have an analysis there. I cannot give you the exact reference, but, perhaps you know the case, in which seven specimens of a mixture of chicory and coffee were prepared ; each of them was said to be prepared separately, weighed, and 10 per cent. of chicory added in each case separately. Those specimens were said to have been distributed to six public analysts, and to Somerset House, and the reports differed extraordinarily ; one report being that the article was genuine coffee, another that the percentage of chicory was 16 per cent. ; and not one of the seven hitting off the exact figure?—That is very likely, but I cannot see how that was referred to Somerset House, unless it was in some way connected with the Sale of Food and Drugs Act.—That is what I want to know?—I should like to know further particulars of that.—Mr. Kearley : That was the Birkenhead Corporation case, who desired to test it, not the public analysts?—I remember the case now.—Sir Charles Cameron : The quotation that I gave was from a paper called *The Analyst*. It is only just to all the analysts concerned in that case to say that the first point to be taken into account is, whether the mixture was thoroughly made, because that is very important ; and when you consider the amount that you take for an analysis, and the quantity that you want for microscopic examination, unless there has been a thorough admixture you will not get the same result throughout.—Mr. Frye : If it was not properly mixed you might find the bottom part chicory and the top part coffee. This was perhaps a case in which the different results arose in that way, from the ingredients being badly mixed?—I feel certain that the mixture must have had something to do with it, otherwise there would not have been such discrepancies as those.—Sir Charles Cameron : I want to know your opinion as to the possibility of making anything like a close analysis of a mixture of coffee and chicory, and a determination of the relative percentages?—I think that that is one of the most difficult problems that we have.—Up to what limit of percentage would you say that it was practically possible to do that?—It depends entirely upon which end you get at it. You would find that it would not be the same throughout. For instance, if a large quantity of chicory was used there would be a great difficulty in coming anywhere near the percentage ; but if you had a small percentage of chicory you would come a great deal nearer, of course.—The law, I believe, has recently been fixed in relation to the demand for French coffee, to the effect that any admixture can pass under that title?—French coffee as a rule is a coffee that is made from coffee berries which have been roasted with sugar, and containing a large quantity of chicory, and the coffee berries are ground very coarsely, so that as a rule you find a large quantity of chicory in it.—Mr. Kearley : French coffee does not come from France, I take it?—A great deal of it is made in London.—Sir Charles Cameron : But it is a recognised and understood description?—It is.—Don't you think, for instance, that the recognition by a department of such understood and tried terms would save a lot of litigation and uncertainty?—The

only difficulty would be that there would be another person who would come immediately afterwards and use some other ingredient which was not known to the Act of Parliament, and he would require to have the same licence as a person who was allowed to sell French coffee. But the department would be able to alter and change the standard from time to time just as you have changed your milk standard?—That could be done, of course, but there would be trouble now and again in connection with it.—But what I want to know from you, you being a man who has had a good deal to do with the working of the Sale of Food and Drugs Act, is whether you think that the public convenience could be served by more definite information upon these points which appear at present only to be capable of being got at after an indefinite amount of litigation?—I must answer in the same way as before : that so far as the chemical part of the work is concerned there is no doubt that there would be a great convenience in establishing a fixed standard, but at the same time other matters have to be taken into consideration with that. For instance, you have to consider how far your Sale of Food and Drugs Act is to go, and what is to constitute "adulteration."—On the policy of these points we should not regard you, of course, as an expert witness, but there is a point on which you can give us better information, I think, probably, than anyone else, and that is about the proposal that the Chemical Court of Appeal should be changed from the Inland Revenue Department to some other department, such as the Local Government Board. You are aware that the proposal has been seriously made by the analysts?—Yes.—And that they express themselves as very much dissatisfied with the present system, and say that the arrangements for the Chemical Court of Appeal should be entirely remodelled. I am glad to see that you have their proposition before you?—It was given to me the last time that I was here.—Would you describe in your own words from the statement what has taken place?—In the first place we have not got an Inland Revenue Chemical Department at the present time, because there has been a committee of inquiry into the different chemical works of the Government ; and now we are a Government Laboratory made up of the Customs Department and the Inland Revenue Department, and have to take over the whole of the work from the other departments. With regard to the suggested Board of Reference, the suggestion is that "there shall be appointed a board or committee consisting of the chief chemical officer of the Inland Revenue Laboratory, a person nominated by the General Medical Council, three persons, being public analysts, nominated by the Local Government Board, and a person nominated by the Board of Agriculture." If you notice about the Board of Reference, in all the trades that are concerned, there is not a reference to those trades at all ; in fact, when we look at the numbers, you will find that there are to be three public analysts, and there are to be three others.—So that, in the first place, you object to that proposal of a Board of Reference as an unfair composition?—Yes ; it is really a reference in which so far as the trades are concerned they have no voice in the matter. The reference seems to me all wrong.—Have you anything to say on the proposal for transferring the department from the position in which it now stands to the Board of Trade or the Local Government Board?—In regard to that I think that the first point which has to be considered is whether the Board of Inland Revenue as referees under the Act have done their duty, or whether they have not. If you look at the work which it has done, and the decisions that have been arrived at by the magistrates, I think you must confess that they have done their duty.—What I should like you to explain to the committee is the opinion of your department upon the subject. I understand you to say emphatically that there is no necessity for any change?—Not the slightest.—And you would deprecate being put under any other department than that under which you serve at the present time?—I feel in this way. Of course the Government of the day is the authority that I have to obey, and if the Government of the day were to say that certain things had to be done, I, as a loyal civil servant, should try to carry out their instructions to the utmost of my ability.—Then you consider it a question of policy, and not a question upon which you, from your official position, can express an opinion?—I think I can express an opinion.

(Continued on next page.)

## CONTRACTS FOR DISINFECTANTS.

### IMPORTANT NOTICE!

To Local Boards of Health, Vestries, and Sanitary Authorities generally.

**THE SANITAS COMPANY, LTD.**, beg to give notice that they have reason to believe there are several unprincipled firms who are offering for sale more or less worthless and fraudulent imitations of the well-known "Sanitas" Disinfectants.

The various "Sanitas" Disinfectants are all manufactured by scientific processes which are protected by Letters Patent, and in order to guard against the nefarious practices above referred to, it is respectfully suggested that all contracts for "Sanitas" Disinfectants and Appliances should be entrusted to the Sanitas Company, Ltd., who are the sole manufacturers, or that a stipulation should be made making it obligatory upon contractors to supply the goods in our original sealed packages.

## THE SANITAS COMPANY, LIMITED

(C. T. KINGZETT, F.I.C., F.C.S., Managing Director)

LETCHFORD'S BUILDINGS, THREE COLT LANE, BETHNAL GREEN, LONDON, E.



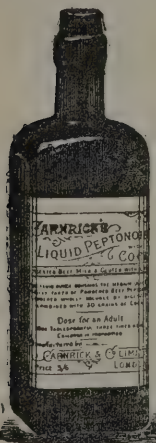
—And that opinion would be hostile to that suggestion altogether?—Certainly.—As a matter of fact, I suppose that there would be no particular difficulty in a transfer of the department from the position in which it now stands to another department?—We do the Board of Trade work now at the present time, the whole of it, and have done it for years. But as regards the Local Government Board Department, you are not in very close communication with them, apparently. You do not report to them at all, do you?—Whenever any question arises on which we have to report to the Local Government Board Department we do report to them; but nothing beyond that. I mean in connection with the administration of the Sale of Food and Drugs Act?—If there is any question that is necessary to be referred between the two departments it is referred; but as a rule it is not necessary. Take the case of beer adulteration. I think that Mr. Thomas, who represented the Local Government Board Department before us the other day, spoke of beer as being little adulterated, and being chiefly adulterated with salt; he evidently spoke of cases referred to them by the public analysts?—Yes. You, on the other hand, have done an enormous amount of beer analyses, but you would not report those analyses to him, or to the Local Government Board Department at all?—Those are distinctly Revenue cases; they have nothing to do with the Sale of Food and Drugs Act at all. Do you not think that in that matter it would be an important item of knowledge on the part of anyone having to administer the Sale of Food and Drugs Act, if he knew that you had made this enormous number of examinations of beer, and the results that you spoke of?—In that same report in which the results of the work done for the Local Government Board are given, there is a return of the number of samples of beer which are examined for adulteration; that comes in the same Report.—Do you say that if the defendant chooses to get at it, it has the information accessible?—Yes.—In regard to margarine you made some reference to someone who had asserted that some of the fats used in the manufacture of margarine came from the knackers. That could not be the case now, could it, under the present Act?—I do not think so now.—Every place where margarine is manufactured in this country has to be licensed, has it not?—Yes.—And is under inspection?—Yes.—Mr. Frye: Where does this fat then come from, can you say?—That was the evidence of Dr. Voelcker before the Commission in 1874; he made that statement in his evidence before the Commission then.—You have never heard of such a thing lately?—No.—Mr. Whiteley: Is there any standard of purity for margarine?—No.—As a matter of fact, margarine, as you have to deal with it under the Sale of Food and Drugs Act, means any imitation of butter, does it not, that is not butter; any impure imitation of butter?—Any foreign fat that contains butter is margarine, it seems, under the Act.—But butter that contains foreign fat is margarine also under the Act?—Yes.—Mr. Yerburch: I should like to know whether the manufacturers of margarine are liable to inspection in this country?—Section 9 of the Margarine Act, 1887, provides that "Every manufactory of margarine within the United Kingdom of Great Britain and Ireland shall be registered by the owner or occupier thereof with the local authority from time to time in such manner as the Local Government Boards of England and Ireland and the Secretary for Scotland, respectively, may direct, and every such owner or occupier carrying on such manufacture in a manufactory not duly registered shall be guilty of an offence under this Act."—Colonel Bagot: Have you any statistics showing how many manufacturers of margarine there are in the country?—No, I have not; they do not get the licences from our department.—Mr. Channing: Even supposing that that clause of the Act gives us the power of checking the use of improper fats for these purposes in England, we have no such similar power, have we, with regard to the margarine which is imported from abroad?—We have not.—None whatever?—No.—I do not know whether you are competent to say, but is it your impression that there has been a very considerable increase in the importation of margarine in various forms?—I have got a return here for the last year. The quantity of butter imported for the year 1891 was 2,135,607 cwts.; in 1892, 2,183,009 cwts.; in 1893, 2,327,473 cwts.; and now for

margarine, in 1893, 1,235,430 cwts.; in 1892, 1,305,350 cwts.; and in 1893, 1,300,033 cwts.; so that in 1893 over 1891 there has been an increase of about 75,000 cwts.—Is it your impression that a large proportion of the butter imported from abroad is to all intents and purposes margarine?—There is no doubt that there is a good quantity of butter imported from abroad which contains a certain percentage of foreign fat, and therefore it would be called margarine under the Act.—Mr. Kearley: These figures, of course, which you have given us of the butter imports take no cognisance of that adulteration?—No, the imports come under the head of butter.—So that the importation of margarine may be much larger really?—Yes.—Mr. Channing: Have you any official experience of the inspection and testing of these foreign imported butters?—We have done that for our own information for the purpose of seeing what they do contain. We have had some admixtures without any doubt which have been imported as butter containing a large quantity of foreign fat.—Has that been put in evidence before?—It has not.—Can you state the results of those experiments?—If you would allow me, I would rather speak of that when I come again. I will get facts that I can speak of.—Then you will have it next Wednesday?—Yes.—Sir Charles Cameron: Is it the duty of your department to do whatever chemical work in connection with imported margarine occurs in the Customs Department?—The Customs Laboratory is a part of our department now.—Mr. Channing: They do not have their own analyst and refer to you on appeal, but they refer direct to your question of analysis?—They have their own analyst down at the Custom House.—But he is under your supervision?—He will be now, but he was not before.—And he will conduct his operations on the same lines and the same standards as yourselves?—Yes.—Can you state now whether you think that there is any sufficient check in the present system as to the introduction of margarine from abroad in the form of butter?—No; and there is a great difficulty in the way of having a check on importations of butter or margarine, because, as it is a perishable article, anything that has to be done with it must be done very quickly in taking samples, and very few people would like to take the responsibility of seizing a portion that might afterwards turn out to be all right.—Has that responsibility been exercised?—I cannot say for certain whether it has.—How are samples taken of the foreign imported butters; perhaps you will explain that to the Committee?—I cannot tell how the Customs Department take the samples.—But in a certain consignment of butter is it the Custom House arrangement to take one or more samples of that particular consignment?—I do not know how many samples they take, and I do not know the regulations at the present time in connection with the sampling of butter under the Customs Board. I think they are taken chiefly under the Trades Marks Act.—You cannot give us an opinion on that point?—No, I cannot at the present time.—With regard to one question that was asked you by Sir Charles Cameron about the determination of the precise proportions of articles like chicory and coffee when mixed, the test that you apply to an article like coffee would always enable you to say whether it was adulterated with foreign substances, would it not?—Yes.—But you think that the precise proportion would be a difficulty?—Yes, that is where the difficulty would be.—Would not the use of conventional terms such as "French coffee" be a fresh license to misrepresentation to a certain extent?—I think it would.—Supposing that to have been licensed by the highest Court of Appeal, as Sir Charles Cameron says, do you think that it would be desirable in the public interest to check misrepresentation and false representation of articles of food?—I think that it is not desirable to extend it.—I want to ask you a few questions as to the test that you apply (I do not think you have given any evidence on that point) to determine the presence of margarine in alleged butter.

(To be continued.)

#### THE CO-OPERATIVE SUGAR CASE.

WE understand that the threatened appeal against this conviction has been abandoned.



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THE MOST CONCENTRATED AND NUTRITIOUS FOOD IN THE MARKET.

"It would take 80 pints of Beef Tea made from 80 lbs. of steak to obtain the flesh-forming constituents present in one pound of CARNRICK'S BEEF PEPTONOIDS."—PROF. STUTZER, BONN.

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(BEEF PEPTONOIDS ENTIRELY DIGESTED AND DISSOLVED).

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A MOST VALUABLE TONIC, STIMULANT AND FOOD.

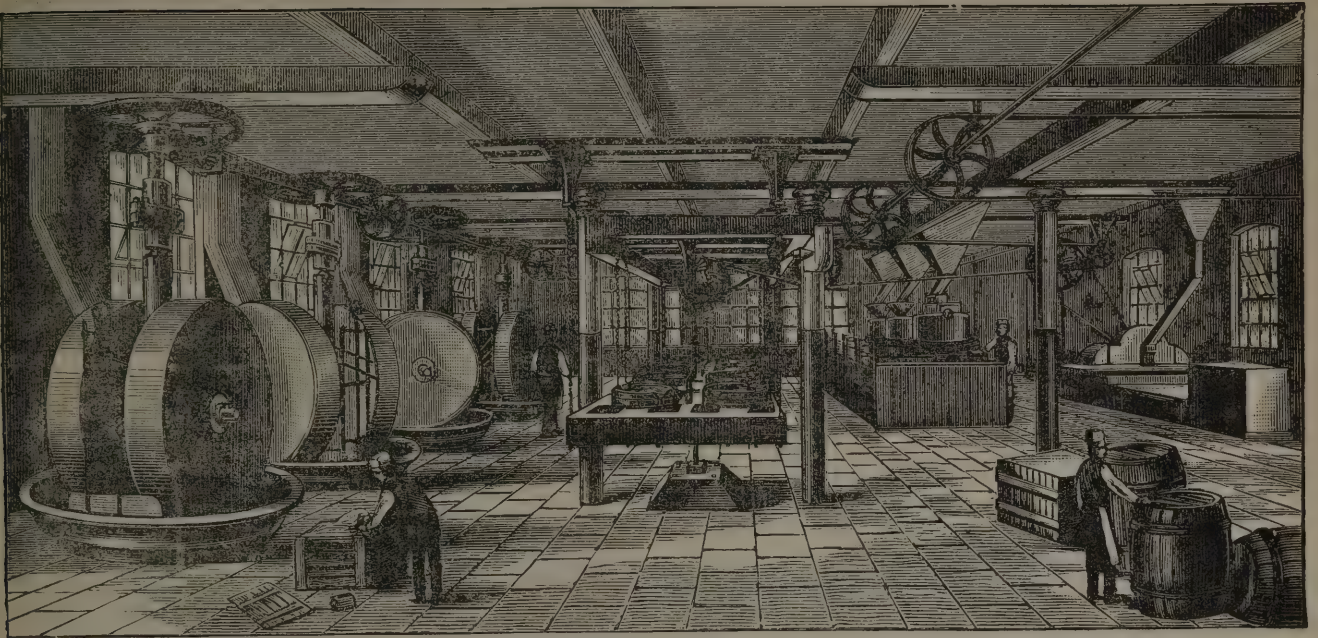
"A very powerful Tonic and Stimulant."—Lancet.

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VIEW OF INTERIOR OF SPICE - GRINDING MILLS,  
AT  
TRAVERS' WHARF, 54, BANKSIDE, LONDON.



J. TRAVERS & SONS, LIMITED,  
guarantee all the Spices which are  
ground and packed at their Mills, 54,  
Bankside, to be perfectly genuine.

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## GINGER.

CAUTION.—GINGER ADULTERATION.—Our Gingers are in no  
instance ground from or mixed with “spent” Ginger,  
the refuse of Ginger-Beer or Essence or Cordial making,  
a worthless substance often used and which enables  
apparently low quotations to be given. We should be  
pleased to send samples and quotations on application.



## BOOKS WORTH BUYING.

## NATURE'S HYGIENE.

By C. T. KINGZETT, F.I.C., F.C.S.

(Published by Ballière, Tindall and Co.) Price 10s.

A SYSTEMATIC manual of natural hygiene, containing also a detailed account of the chemistry and hygiene of eucalyptus, pine, and camphor forests, and the industries connected therewith.

In a preface to the fourth edition of his work upon "Nature's Hygiene," just published, Mr. Kingzett says, "It will be seen that the book has gradually grown from a series of scientific essays into a systematic treatise on hygiene." Enlarged and practically re-written, as this new edition is, it forms a valuable storehouse of learning and careful investigation in sanitation. Mr. Kingzett again emphasises the importance of allocating to skilled chemists some of the duties which are at present entrusted to medical officers of health and engineers. If any justification were needed for this advice to public authorities it would be found in the manner in which disinfectants (on which, perhaps, there is no living scientist as capable to speak with authority as Mr. Kingzett) are purchased by local authorities. With scarcely an exception these purchases are made at present by surveyors or medical officers, who are not possessed of the skill, and even did they possess that skill, have in very few cases the necessary appliances to make an accurate analysis of the substance supplied by the disinfectant contractors. As a result there are a host of articles upon the market, offered under all kinds of fancy names, which are absolutely worthless preparations. It has been our duty to expose many of these so-called disinfectants and to point out the terrible consequences that have attended their use in outbreaks of infectious disease. In one instant, in the village of South Wingfield, a swindling carbolic, alleged to contain 15 per cent. of carbolic, and found to contain none whatever, caused an outbreak of 50 cases of typhoid fever with five deaths.

In a visit the other week to the Elephant and Castle Theatre, we came across another so-called disinfectant in use in the lavatories at the said theatre. This substance is given the imposing name of "Elliott's Annihilant," an analysis of which was made some time ago by Mr J. Carter Bell, the public analyst for Salford, who reported upon it as follows:—

"This solution only contained 1 per cent. of sulphate of iron, with a mere trace of copper; this nostrum was sold for one shilling a pint bottle, and as sulphate of iron can be bought in the open market for about twenty-five shillings a ton, one pound weight, which would not cost one farthing, would make one hundred bottles of this disinfectant; which, on being sold for £5, leaves a very respectable profit for all concerned. I would not dwell so much upon this latter if it had been really a good antiseptic and fairly worth its selling price, but I have performed so many experiments with this sulphate of iron, using large quantities, and have found it very unreliable; it is a deodoriser, but cannot be called a destroyer of micro-organisms. Though this subject does not come under the Food and Drugs Act, yet it does belong to public health, and that is my reason for introducing these two samples, so that local boards throughout the country may be on their guard in purchasing disinfectants. It cannot be too widely known that some disinfectants which are sold under fancy names at very high prices are almost worthless as regards their germicidal powers."

Other separate experiments made with this "Elliott's Annihilant" showed that it contained 98.71 per cent. of water and 1.29 of total solid contents. Dried at 200 C., the residue was found to be almost exclusively sulphate of iron, with a trace of copper and a trace of chlorine, whilst the liquid was slightly acid in reaction—thus corroborating the analysis of Mr. J. Carter Bell. This substance is advertised as being an antiseptic, a deodoriser, a disinfectant, an insecticide, and to be the cheapest and most effective disinfectant ever offered to the public, and amongst the testimonials that are printed by the vendors is one from Dr. R. Maples, medical officer of health to the Kingsclere Union, who is alleged to say, under date of May 17th, 1893, "During the last two months of exceptionally dry weather I have taken frequent opportunities of testing your liquid "Annihilant," and have much pleasure in stating it has instant effect in destroying offensive gases arising from any causes and therefore is invaluable for the purpose you offer it. I shall make it my duty to recommend it to my brother practitioners."

The Borough Surveyor of Newbury, Mr. E. A. Stickland, testimonialises this 1.29 per cent. of sulphate of iron disinfectant as follows: "I am glad to tell you that I have tested your liquid "Annihilant" under very exceptional and extraordinary circumstances, and am astonished to find that a complete and instantaneous destruction of sewer gas and smells arising from foul vegetable matter was the result of only one application. I am convinced, by careful trials, this liquid must play an important part in sanitary matters in future.—Signed, E. A. Stickland, borough surveyor and inspector of nuisances, A.M.I.C.E., Member of Association of County and Municipal Engineers, Member of Sanitary Inspectors Association, Fellow Imperial Institute."

Mr. Church, a rural sanitary inspector of Newbury, in July, 1893, is also quoted as testifying to the efficacy of this "Annihilant," saying, "I have tested its qualities as a disinfectant, and find the

results to be most complete and satisfactory. It is a thorough disinfectant, killing and subduing all putrid and bad smells, and not merely hiding them, as is the case with many disinfectants. I am confident that your "Annihilant" will be in great demand when its usefulness becomes known to the public."

We have here, a medical officer of health, a borough surveyor, and a sanitary inspector, testifying, no doubt in the full belief that their testimonials were merited, to the wonderful disinfecting properties of a substance which, as a disinfectant, is practically worthless. Can any more convincing illustration be given of the grave need of allocating to skilled chemists some of the duties which are, at present, entrusted to medical officers of health and engineers? We venture to say, from a closer actual examination into the disinfectants in use in the various towns in England than any other newspaper can claim to have made, that there are very few towns whose supplies of disinfectants are not either below the strength contracted for, or the most barefaced swindles. This new edition of Mr. Kingzett's work upon "Nature's Hygiene" is therefore published at a very opportune time. Devoting, as Mr. Kingzett has done, scientific capacity of the highest character to the study of the causation of disease and to disinfection and disinfectants, he has been able in the book now before us to produce what is a veritable *magnum opus* in sanitary science.

After an exhaustive study of ozone, Mr. Kingzett deals with the belief of a great many persons that when ozone is absent from the air disease occurs and spreads, and that when it is present zymotic disease is almost unknown. Extensive as is Mr. Kingzett's bibliography of ozone, we note one curious omission in the absence of any reference to the brilliant writer, original thinker, and scientific experimentalist, Henry Mayhew, founder of *Punch*, author of "London Labour and the London Poor"—a monumental work of social research feebly imitated by the present day school of flashy pretenders to knowledge of how the poor live—author of "Social life in Germany," a work whose clever but eviscerating analysis of the Teuton earned its author Her Majesty Queen Victoria's hatred to the extent that she refused her sanction to the appointment of the gifted writer to a foreign consulate.

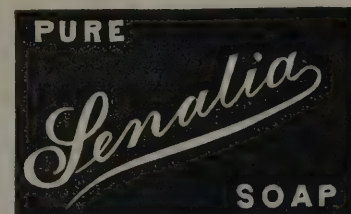
The popularisation of the ozone theory was really due to the brilliant founder of *Punch*, who some time in the "forties" contributed a startling series of articles to a London daily paper, in which he attributed the outbreak of cholera to the fact that for a considerable period there had been abnormal weather with no storms or electricity, and a consequent absence of ozone in the air. It is a curious circumstance that abnormally fine weather, with an absence of storms and electrical discharges preceded the cholera outbreak of two years ago. Mr. Kingzett, however, says it seems a vast pity to upset notions which have taken so deep a root in men's minds, but the truth must be told by scientific men. It was pleasant enough to resort annually to the seaside in the firm belief that there ozone was to be met with in plenty, and miasmatic poisons could not enter, but, as a matter of fact, there is little evidence to show that, so far at least as ozone is concerned, the seaside is any healthier than the flats and marshes of Lincolnshire or the hills of Devonshire. . . . There is at present no reliable means of estimating the one substance, ozone, without including the other, peroxide of hydrogen. Readers may, however, content themselves with the assurance that, if ozone does not occur so freely in the air as is generally believed, another substance does, and one, too, of greater sanitary value, namely, peroxide of hydrogen.

In an excellent chapter upon "Water: Its Micro-organisms, Purification, and Chemical Examination," Mr. Kingzett says: "According to a calculation that has been made, 64,000,000 cubic feet of water passed through Teddington Lock in each twenty-four hours during the dry weather, and this contained 17½ tons of dissolved oxygen. By the time this body of water reached Somerset House it was found to have lost from twelve to thirteen tons of oxygen. This loss is supposed to represent the quantity used up in the meantime in the oxidation of sewage matter, which is an illustration of self-purification of rivers."

(To be continued.)

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## Food and Sanitation.

SATURDAY, SEPTEMBER 1ST, 1894.

### AN OFFICIAL SCANDAL.

SECTION 10 of the Sale of Food and Drugs Act, 1875, expressly debars any analyst "who shall be engaged, directly or indirectly, in any trade or business connected with the sale of food or drugs" from holding any appointment under the Act. This is a necessary and a wise precaution, for if it were permitted to analysts that they should be connected with the sale of food and drugs, it will readily be seen that grave scandals might easily result.

The Local Government Board ought, we suppose, to know the above prohibition, yet they permit of its being treated with contempt. Mr. Richard Bannister is an analyst acting under the Food and Drugs Act, 1875, as an official referee, but in defiance of the prohibition in clause 10, he is, and has been for a considerable period, personally and directly engaged in the sale of food and drugs as chairman of the Civil Service Stores' as the following report proves:—

#### CIVIL SERVICE SUPPLY ASSOCIATION, LIMITED.

"In presenting the balance-sheet for the half-year ended June 30th, 1894, the committee congratulates the members on the continued prosperity of the Association, and begs to draw their attention to the following facts:—The number of members on the share register is 5,177, and the number of shares on the register 35,448. Tickets were issued to 12,974 members of the Civil Service, and to 27,446 friends of shareholders. Goods were bought to the amount of £698,428 1s. 1½d., and sold to the amount of £812,840 9s. The stock in hand at the close of the half-year was valued at £293,909 12s. 5d. The gross profit on the trading amounted to £113,380 9s. 7½d., and the sum of £3,127 14s. 6d. was received from other sources of revenue, making the total gross income £116,508 4s. 1½d. The working expenses, excluding carriage, were £73,856 4s. 2d., being at the rate of £9 1s. 8d. per cent. on the amount of the sales; including carriage, they were £88,282 3s. 9½d. the rate per cent. being £10 17s. 2d. After allowing for interest on the reserve fund, £1,033 18s., representing 7d. per share, which will be paid to the shareholders, the net balance for the half-year amounts to £24,538 0s. 11½d., which, added to £4,645 13s. 6½d. brought forward from last half-year, makes a total of £29,183 14s. 6d. Out of this amount the committee recommends that 12s. be paid in respect of each share, making, with the interest from the reserve fund 12s. 7d. per share; that the sum of £2,000 be transferred to the reserve fund; and that £1,000 be granted to the pension and gratuity fund, and £250 to the employees' provident fund. The sum of £4,664 18s. 6d. will then remain to be carried forward to the next half-year. An opportunity having occurred for acquiring additional space at the West-end establishment, the committee is glad to report that it has secured the leasehold premises, No. 5, Chandos-street, adjoining the stores.—(Signed) R. Bannister (Chairman), F. B. Armstrong, J. N. Higinbotham, F. MacGauran, J. C. Stockton, W. R. Wilson, members of the Committee of Management; John E. Bignall, Secretary."

We have thus the spectacle not only of an Act being treated with contempt, but the interesting position is disclosed of a Government analyst out-Gilberting even Gilbert's Lord Chancellor, who lamented that he would have "to move himself to commit himself for contempt of his own court," inasmuch as if it happened that the Civil Service Stores were to be prosecuted for adulteration and to dispute the charge, demanding a reference of the alleged adulterated sample to Somerset House, the very persons who would, under the Act, have to analyse it and report thereon would be the chairman of the Civil Service Stores—Mr. Bannister—and his assistants, one of whom acts as analyst to the stores in question. In plain words, they would be called upon to find themselves guilty or not guilty of selling adulterated goods. It was understood some months ago, when our contemporary, the *Daily Chronicle*, commented upon this scandal, that Mr. Bannister would have to give up the one post or the other. If it is allowed to exist any longer means must be taken to give the responsible departmental heads in Parliament a lively time next session.

### SOMERSET HOUSE PRETENCE AND PRACTICE.

It is a serious thing when statements made officially on behalf of a Government department before a Select Committee of the House of Commons cannot be taken as worthy of credence, and, when the proof of the deliberate hocussing of the Select Committee is incontestable it remains to be seen in what manner the Select Committee will assert its dignity. In his evidence to the Select Committee Mr. Bannister stated that the standard adopted by Somerset House for fat in milk was 2·75 and that all milks containing a less percentage than this were reported as adulterated. A case tried at Wood Green on August 24th is a sinister comment upon this assertion.

SOLOMON MAYNARD, of Hardy-terrace, Wood Green, was summoned for selling milk adulterated with 5 per cent. of added water.—Mr. W. T. Ricketts defended.—The case for the prosecution was that Mr. Tyler, the inspector of the Middlesex County Council, took a sample of milk, which was analysed by Mr. Bevan, the county analyst, who certified that it contained 5 per cent. of added water.—The defence said that the milk was as it came from the cow, and the farmer and defendant were called to prove that no water was added.—Mr. De Hailes, an analyst, said the conclusion he arrived at after analysing a portion of the sample taken was that, though poor, the milk was pure. Upon that, a sample was sent to Somerset House at the request of the prosecution, and Mr. Bannister and Mr. Holmes analysed and certified it to be pure.—Mr. Edward Bevan was now called, and said as a fact the Government standard of fat was 2·75, and this contained but 2·62. Then with fat not solids, the standard was, according to Dr. Bell, the late head of



the department, 8.5, and only 8.25 was found. The standard for water was put at 88.91, and this showed 89.13. He argued that these facts showed that the milk was not pure, and on that ground the Government chemists ought to be present to prove their certificate.—Mr. Tyler asked for an adjournment for that purpose, and pointed out that the case was important, especially in view of the difficulty about what the proper standard was.—The Bench accepted the Somerset House certificate, and dismissed the summons, with three guineas costs.

At the hearing of the case the following certificate from Somerset House was produced:—

The sample of milk marked "E. M. 22" was received here on the 13th inst. securely sealed.

We hereby certify that we have analysed the milk and declare the results to be as follows:—

Non-fatty solids	...	...	8.25 per cent.
Fat	...	...	2.62 "
Water	...	...	89.13 "

From a consideration of these results, and after making addition for normal loss arising from the change which has occurred in the milk through keeping, we are of opinion that the milk, although of poor quality, does not afford conclusive evidence of added water.

As witness our hands this 22nd day of August, 1894.

Signed { R. BANNISTER, F.I.C., F.C.S.  
J. HOLMES, F.I.C.

Herbert Gough, Esq.,

Clerk to the Justices, Edmonton.

This certificate affords conclusive evidence that Somerset House chemists have one set of statements for a House of Commons Committee, and quite a different set when it is their intention to discredit or injure public analysts. The House of Commons Committee were distinctly told that the Somerset House standard was 2.75, but in the above case Mr. Bannister, who made that statement, certifies that a milk containing only 2.62 of fat, viz., 0.13 less fat, is genuine. The facts speak for themselves, and need no comment. We shall be curious to see what action the Middlesex County Council will take in the face of this scandal, and of a fine of three guineas imposed upon them for doing their duty to protect the public, and in what light the Select Committee will after this revelation regard Mr. Bannister's evidence.

### WHISKEY DILUTION.

AT Belper Petty Sessions Isaac Stone, of the Spanker Inn, Nether Heage, was summoned by Captain Sandys, inspector under the Food and Drugs Act, for having sold to him half a pint of whiskey, on June 15th, the same not being of the strength required by law.—Defendant pleaded guilty.—Captain Sandys produced the analyst's certificate, which was to the effect that the whiskey was 37.8 per cent. under proof, 25 per cent. being the limit allowed.—Defendant said the keg was filled up by the previous landlord.—Fined 20s., and costs 21s.

### SMALL FINES AT LIVERPOOL.

ROBERT HOBKIRK, refreshment-room keeper, 8, Manchester-street, was summoned, on August 22nd, for having sold to Inspector Baker as new milk what on analysis was found to be watered to the extent of fourteen parts to every hundred of the poorest milk. The defendant was further charged with selling margarine as butter, examination revealing the fact that it contained 75 per cent. of fats other than butter. The magistrate imposed a fine of 10s. and costs in each case.—Richard Owen, 20, Elias-street, was fined 10s. and costs for selling as new milk what on examination was found to contain nine parts of water to every hundred of the poorest milk.—Richard Constantine, milk dealer, 11, Smith-street, was summoned for having sold to the West Derby Guardians milk which was not of the nature and quality contracted for. On June 29th last Inspector Baker saw the defendant's float outside the Mill-road Infirmary. He asked the man in charge for four samples of milk, which he paid for and received. On examination by the analyst the samples were found to contain 18, 16, 15, and 14 parts of water to every hundred parts of the poorest milk. Dr. Sparrow, who defended, contended that the information, which stated that the defendant did sell to the West Derby Board of Guardians, was bad, inasmuch as it should have

read, "Did sell to the said John Baker."—Mr. Stewart failed to see the matter in this light, and finding the offence proved imposed a penalty of 40s. and costs on one information, and 1s. and costs on the other three.

### DIPHTHERIA BACILLI IN AMERICAN CHEESE.

ASSISTANT-CHEMIST BEEBE, of the Division of Bacteriology of the Health Department, New York, has just made a report to Sanitary Superintendent Roberts of the examination by him of specimens of cheese seized by Inspector Fuller, and which the State Board of Health reported contained germs of diphtheria. Dr. Beebe found the true bacillus of diphtheria in the cheese. The cheese was made at the dairy of the Star Creamery at Afton, New York. Fifty-one packages, each weighing 60lb., were shipped to a commission house in Washington-street, and the entire lot was seized by Inspector Fuller. Dr. Roberts, after receiving the report of Assistant-Chemist Beebe, ordered all of it to be immediately destroyed. Dr. Beebe grew cultures from specimens of the cheese, and thus proved that it contained the true bacilli of diphtheria. The germs were alive in the cheese. The farmer who supplied the milk to the dairy from which the cheese was made was found to have had a fatal case of diphtheria in his family. He milked the cows during the time that the disease was prevalent, and in that way, it is supposed, the germs were communicated to the milk.

### COFFEE AND CHICORY.

AT Chapel-en-le-Frith, on August 23rd, before a full bench of magistrates, Colonel W. A. Shortt, inspector for North Derbyshire under the Food and Drugs Act, brought charges against two tradesmen of Bradwell. Ralph Walker, grocer, was charged with selling to William Marples four ounces of coffee adulterated with 80 per cent. of chicory, on July 6th. Colonel Shortt admitted that upon the package was printed, "This is sold as a mixture of chicory and coffee," but contended that such label was no protection to the purchaser unless his attention was drawn to the mixture before purchasing. Defendant admitted having sold it as a mixture of chicory and coffee, and said they should have sold the inspector all they had in the shop if he had asked for it. He did not mix it, but sold it as he received it from Messrs. J. S. and T. Birks, a highly respectable Sheffield firm, who also supplied the printed wrappers. The Bench said the law obliged them to convict, but they would impose a nominal penalty of 1s. and costs only. They thought those who sold the coffee to the defendant ought to pay the money.—John Hall, grocer, etc., Bradwell, was fined 2s. 6d. and costs, for selling coffee adulterated with 75 per cent. of chicory, on the same day. In this case the coffee was sold as received from the wholesale people, but without label.

### NEWSPAPER ENGLISH OR ANATOMICAL ACCIDENTS.

HE kissed her passionately upon her reappearance.—*Jefferson Souvenir*.  
She whipped him upon his return.—*Burlington Hawkeye*.  
He kissed her back.—*Atlanta Constitution*.  
She seated herself upon his entering.—*Albia Democrat*.  
We thought she sat down upon her being asked.—*Saturday Gossip*.  
She fainted upon his departure.—*Lynn Union*.  
He kicked the tramp upon his setting down.—*American Pharmacist*.  
We feel compelled to refer to the poor woman who was shot in the oil regions.—*Medical Journal*.  
And why not drop a tear for the man who was fatally stabbed in the rotunda, and for him who was kicked on the highway?—*Medical Age*.  
Why not mention the fact of a man being shot in the waterworks.—*California Medical Journal*.  
How about the woman who was hurt in the fracas?—*Railway Age*.  
A Chicago footpad was shot in the tunnel.—*Western Medical Reporter, Chicago*.

### ADULTERATED COCOA.

AT the Wolverhampton Police-court, on August 24th, Robert Allcock, 136, Anderton-street, Birmingham, who trades in Queen-street, Wolverhampton, under the style of the Colonial Tea Stores, was summoned for selling as cocoa an article which was not of the value and substance demanded. Mr. Jaques (Birmingham) defended.—Mr. Allwood, the local inspector, sent a girl into the defendant's shop to purchase a quarter of a pound of loose cocoa at 6d. per pound. The label showed that the contents of the parcel contained cocoa combined with other ingredients, but the girl's attention was not drawn to this fact, and on the inspector going into the shop with the purchase the manager declined the offer to allow the article bought to be divided into three parts. The analysis showed that the article sold only contained 30 per cent. of genuine cocoa.—For the defence it was contended that the article was sold as chocolate powder.—A fine of 40s. and the costs was imposed.



## IMPORTANT MILK PROSECUTIONS.

AT Watford on August 14th, James William Money was charged with selling adulterated milk.—Mr. Rushworth, inspector under the Food and Drugs Act, said that the case was adjourned for the sample of the milk to be sent to Somerset House for analysis.—Mr. Rawson said that the certificate of the analyst and the certificate from Somerset House did not agree, and there was therefore a question for the Bench. There was a positive statement by the analyst on the last occasion that there was no less than 17 per cent. of added water in the milk, although his certificate said 15 per cent. His contention then was that there was no specific standard with regard to milk in the Act of Parliament, and he repeated that now. The analyst admitted that analysts had made mistakes before. He suggested that the sample should be sent to Somerset House, as what he should call the fountain head in this country, otherwise the statute would not have given liberty to send there for analysis. They were asked to convict a man on a question of degree. Here was the analysis from Somerset House:—"We hereby certify that we have analysed the milk, and that the results are as follows:—Non-fatty solids, 7·47; fat, 2·48; water, 90·05. From the consideration of these results, and after making allowance for the natural loss which has occurred in the milk, we are of opinion that the milk contains not less than 9 per cent. of added water." Upon that he should argue and point out again the danger that arose in implicitly relying upon the analysis of food as against matters of fact as proved to the Bench—namely the tracing of the milk from the udder of the cow into the vessel from which it was sold to the inspector. That was only matter of opinion; because milk was not of a certain strength it was assumed that there was added water. On the other hand, they had the positive oaths of every person whose hands could have touched the milk that nothing was done to it, and he had there the other two witnesses who were concerned in the conduct of the defendant's business, to call whom liberty was given him. Having regard to the conflict of opinion between the experts, he was entitled to ask the Bench to consider the danger, he would not say the injustice, of convicting a man in face of such evidence with regard to facts. It was suggested from the bench on the last occasion that analyses made at Somerset House were not always reliable.—The Chairman: I said that it had been broadly stated; I did not say that they are not reliable. I made the observation that I had seen very frequently indeed that the analyses of the Somerset House authorities were not looked upon by any means as infallible. But that is a very different thing from saying they are not reliable, because I am not competent to give an opinion upon it.—Mr. Rawson said he did not suggest that the Chairman said that. But after all what had it come to? There was matter of opinion on the one side, and matter of fact, sworn to, on the other, the matter of opinion being an open question and admittedly open to difference between experts.—The Chairman said: In this case, though Mr. Rawson has, with his usual ability, put everything forward in a very forcible way, we cannot quite accept all the arguments that he uses to support his defence, more especially that in which he states that he has produced direct evidence that nothing was done to the milk, that nothing was done in the way of adulteration, in opposition to the opinions of the county analyst and the analyst at Somerset House. But it is not simply an opinion, it is a result that is arrived at by scientific investigation; and though they may differ as to quantity, there is not that contradiction between the Somerset House analyst and the county analyst that could be of any avail to the defendant in this case; because, taking the most favourable one, that of the Somerset House analyst, it shows that there is at least 9 per cent. of added water. You cannot get out of that. It is true the county analyst says there is 17 per cent. He gave a certificate

not to be too hard on the defendant of 15 per cent. But, as Mr. Rawson says, and says very truly, all analysts are liable to error, and the analyst of Somerset House is just as liable to error as the county analyst. It may be that the analysis of the county analyst has more credit than the other. But here you have the evidence of two analysts, both of them independent, because it is perfectly immaterial to them—there is no gain or loss with them in the matter—and they both find there is such a percentage of added water to the milk as satisfies the Bench that the water was there. We must therefore convict the defendant. The costs come to £3 9s. 6d., and we think the justice of the case will be met by inflicting a fine of £5, including costs.—Upon the question of allowing time for payment, Mr. Rawson intimated that he must consider whether in this case there should not be an appeal, and under the circumstances asked for a reasonable time.—The chairman: And if you succeed no one will be more pleased than we shall. We are like the analyst—we are not infallible. We will allow a fortnight.

## ADULTERATED MILK.

T. W. EDMONDS, of 61, Marchmont-street, was summoned at Bow-street on August 20, for selling milk adulterated by the addition of 10 per cent. of water.—Mr. H. C. Jones prosecuted on behalf of the St. Giles's District Board of Works; and Mr. Ricketts defended.—Mr. Jones said Mr. Edmonds was under a contract with the guardians of St. Giles-in-the-Fields and St. George's, Bloomsbury, to supply pure milk to the workhouse. In consequence of complaints an inspector took samples of the milk at the time of delivery, which, on being analysed, was found to contain at least 10 per cent. of added water.—John Robinson, inspector under the Food and Drugs Act to the St. Giles's District Board of Works, said that at 6 o'clock on August 3rd he attended at St. Giles's Workhouse, Endell-street. The defendant's man arrived with milk in a churn. The witness asked him to sell him a pint, but he refused, stating that he was delivering and not selling it. The witness told him that he was an inspector, and that he was liable to a penalty if he refused to sell it to him, and proceeded to take a sample from the churn after stirring it up. This was handed by him to the public analyst.—By Mr. Ricketts: Defendant had, he understood, supplied milk to the workhouse for some years. He understood there had been complaints before, but no legal proceedings. He did not produce any contract.—Mr. Jones put in the certificate of the analyst, and said that was his case.—Mr. Ricketts submitted that the case was not made out.—Mr. Jones said he did not think it necessary to put in the contract. It had not been customary in other cases.—Mr. Ricketts said defendant might have been instructed to deliver milk and water.—Mr. Lushington said no contract had been put in, and dismissed the summons.

## REVIEWS.

"FIRST AID IN POISONING." By William Murrell, M.D., F.R.C.P. 1s.

"FIRST AID IN CHOLERA." By the same author. 6d.

(Publishers: Griffith, Farran, & Co., Ltd., Charing Cross-road, London.)

This valuable chart on poisoning would be found of the greatest use at police-stations and public places where persons poisoned by accident or design are occasionally brought, and in the absence of a medical man cannot be immediately treated. Dr. Murrell states in plain language the remedies employed for various poisons, and how to apply them. Printed on stout cardboard, varnished and taped, the chart is convenient for hanging up in a prominent position, and should find a large sale. No police-station, at least, should be without it.

The "First Aid in Cholera" is got up in the same manner, and is an excellent compilation.

**HORLICK'S**  
**MALTED**  
**For Infants**  
**and Invalids.** **MILK**  
**CONTAINS PURE MILK, WHEAT AND BARLEY MALT.**  
**NUTRITIOUS, DIGESTIBLE. GUARANTEED ABSOLUTELY PURE.**  
**OF ALL CHEMISTS AND STORES.**  
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## A CLERKENWELL TERROR.

## WHY THE NAMES OF TRADESMEN WHO ADULTERATE ARE PUBLISHED.

THE *Morning Leader* says: It is a nice thing to have a humorous man in your district, especially in this rainy August. Clerkenwell must welcome, therefore, a letter from Mr. W. H. Daniels, of 7, River-street, Myddelton-square, who wrote to the *Times* yesterday complaining that the Clerkenwell Vestry had placarded in the parish a list of persons convicted under Acts administered by the vestry, with the names, addresses, and penalties inflicted. He went on in this serio-comic manner:

But, sir, why should the Clerkenwell Vestry have a monopoly of their excellent invention? Suppose everyone were to placard outside his house lists after the following style:

"My late butcher,—, recently sent me a villainously tough rump steak. I have paid the fellow his bill, and got his receipt with thanks for it. His place of business is at—."

"*Idem*, my fishmonger, for sending me the wrong end of a sole. Those who wish both to do and to get what's right, will please note that his address is—."

A whole town might thus at a stroke, as it were, be converted into a mutual improvement society, and the cause of progress could not fail to be visibly advanced.

A *Morning Leader* representative, who called at the Vestry Hall to see what the bother was about, found outside that building the list. It was chiefly filled with names of tradesmen who had been fined for adulteration, with one or two house-owners fined for sanitary defects. Mr. Paget, the vestry clerk, had been in the habit of issuing these placards quarterly for several years. There was no vindictiveness about it, but they were desirous that the public generally should know what was going on. Very often Adulteration Act cases were not reported at all in the newspapers, and the fines were so small in some cases that they were in no sense a deterrent. Mr. Paget pointed out in this quarter's black list fines of 5s. and 2s. costs for selling adulterated cocoa, and fines of 10s. for watered milk. The Metropolitan Grocers' Association in a recent letter to the Holborn Board of Works, which has followed the Clerkenwell lead, remarked that the publication of such placards was no deterrent. Mr. Paget doesn't agree with them, nor will any unbiased person. Mr. Paget mentioned that in one instance lately the bill-sticker had posted the placard near the shop of one of the tradesmen mentioned on it, and that trader had been to the Vestry Hall to complain that it had seriously reduced his takings.

"Have the vestry been threatened with proceedings?" asked the reporter. "Oh, there was plenty of that sort of talk at first!" replied Mr. Paget. "One of the first lists we published contained the name of a tradesman who was a member of the vestry, and had been fined for adulteration. As soon as it appeared we got a letter from his solicitor asking by what authority the publication was made. I replied by the authority of the vestry, and after that we heard no more. We had taken counsel's opinion, you see, and we were advised by Dr. Blake Odgers, who is, I suppose, the greatest authority on the law of libel, that so long as the facts were accurately stated, with no mis-description and with no malice, we had a perfect right to do it. As for Mr. Daniels, who writes to the *Times*, I don't know him, and his attempts to be funny are rather absurd. There is no desire to punish a man twice for the same offence, and I ought to say there is no party matter in this. Men of both political parties were agreed when the decision to take this course was adopted."

The Holborn Board of Works have followed Clerkenwell's example in this matter, and they have been the recipient of a letter from the Metropolitan Grocers' Association protesting against the practice and asking that a deputation may be received. The Holborn Board thought that there was no harm in hearing what the association had to say, but there is not much likelihood that they will alter their practice. Meanwhile a good method of avoiding the publication of your name in the districts concerned will be to abstain from selling adulterated goods or letting insanitary houses.

## WHAT FOOD WILL BE IN THE YEAR 2,000.

GLASS COWS AND BRASS BEEFSTEAK MACHINES—ARTIFICIAL TOBACCO, TEA, COFFEE AND CHOCOLATE—GENUINE FACTORY-MADE FOODS.

ALL the ingenious prophets, from Bellamy to Astor, who have foretold the extraordinary conditions of the year 2,000 A.D., have omitted to deal with one highly important and deeply interesting question, namely, "What is the Man of the Future Going to Eat?" This particular prophecy has now been undertaken, not by an imaginative writer, but by one of the greatest living men of science, Professor Berthelot, of Paris; and it may be said at once that, but for his scientific eminence and the undeniable facts upon which he bases his forecast, his predictions would pass the limits of human belief. Marvellous as it may seem, the people of the future, in countless millions, will be fed by means of air, water, and carbon. Four simple elements, carbon, hydrogen, oxygen, and nitrogen, universally distributed over the earth, are to furnish, in chemical combination, all foods now known, other foods not yet known, and all the flavours and essences which make eating a luxury. The epicure of the future is to dine upon chemical meat, chemical bread and chemical vegetables, drink chemical wines and liquors, and round off his repast with a chemical tobacco, beside which the natural tobacco of the present will make a very poor showing. Wheat fields and corn fields are to disappear from the face of the earth, because flour and meal will no longer be grown, but made. Herds of cattle, flocks of sheep and droves of swine will cease to be bred, because beef and mutton and pork will be manufactured direct from their elements. Fruits and flowers will doubtless continue to be grown as cheap decorative luxuries, but no longer as necessities in food or ornament. There will be no grain or cattle or coal cars in the great air trains of the future, because the fundamental food elements will exist everywhere, and will not require transportation. Coal will no longer be dug, except perhaps with the object of transforming it into bread or meat. All the big engines of the great food factories of the future will be driven, not by combustion, but by the underlying heat of the globe. All the wonderful and magical changes which have been promised and prophesied concerning the conditions of human life in the centuries before us pale into insignificance before the strange alterations which are destined to transform our kitchens and our dinner tables, and these are foretold and described, as will be read below, in the dry, exact language of science and based upon undeniable facts.

The articles of diet now in common use consist almost entirely—the percentage of other elements being minute—of carbon, hydrogen, oxygen, and nitrogen. These four elements, universally existing, are destined, the theory is, to furnish all the foods now grown by nature, through the rapid and steady advance of synthetic chemistry. Synthetic chemistry is the special science which takes the elements of a given compound and induces them to combine and form that compound. It is the reverse of analytical chemistry, which takes a given compound and dissociates and isolates its elements. Analytical chemistry would separate water into oxygen and hydrogen, and synthetic chemistry would take oxygen and hydrogen, mix them, put a match to the mixture, and thus form water. Synthetic chemistry has already progressed so far that several great agricultural industries have been destroyed by its advancement, compounds which were once obtained by plant growth in the fields being now furnished entirely by chemical laboratories and direct manufacture. In fact, the clear evidence of the present leaves no room for doubt that at some more or less distant period in the future synthetic chemistry will destroy all the great agricultural industries, including the grain fields and cattle ranges of the day.

## PROFESSOR BERTHELOT AND HIS ENVIRONMENT.

No man is more entitled to act as a prophet in this field than Professor Berthelot. If not the father, he is certainly the foster-father of synthetic chemistry as a special science, and for nearly fifty years has been one of the leaders of the scientific army in the invasion of an unknown territory, from which astonishing results have every now and then been reported. In every way open to a

## CHAMPION'S MUSTARD

MANUFACTURED AND MILLED FROM

## MUSTARD SEED ONLY.

CHAMPION & CO., so far as they are aware, are the only makers of importance who

## DO NOT MAKE AN ADULTERATED MUSTARD.

CHAMPION & Co. confine their attention to selling only Genuine Mustard Flour, milled and manufactured from Mustard Seed. They frequently sell 20,000 tins of such Mustard in a day in London alone.

To make CHAMPION'S Mustard, it is essential to use only the finest Mustard Seeds, inasmuch as chillies or ginger cannot be employed to produce pungency, nor can turmeric be utilised to secure high colour; consequently ripe and perfectly-coloured Mustard Seed only can be used.



grateful nation, France has loaded him with honours. He is member and permanent secretary of the Academy of Sciences, member of the Institute, and grand officer of the Legion of Honour. He is director-general of the Higher Education, president of the Committee on Explosives, and in 1870 was president of the committee on the Defence of Paris. As a cabinet minister he has had an excellent chance to study the people, while as a lifelong chemist he has enjoyed the best opportunities of considering the industrial changes which affect their condition, many of the great manufacturing advances which have enriched latter-day France having been due directly or indirectly to his own chemical researches. Consequently his predictions in this new field have a very important and practical value, and an interview upon the subject, which he was good enough to accord to the writer, proved to be unique and fascinating of its kind. To romance and rhapsodise concerning the future is not very difficult, but to accurately foresee and foretell its conditions is an accomplishment only to be found among the followers of those sciences which are held to be exact.

Professor Berthelot, by virtue of one of his many scientific positions, occupies a residential suite of apartments in the Institute of France. This is a great stretch of old brownstone buildings on the Quai Malaquais, its bare and barren courtyards being paved with many square feet of gray stone blocks. The coldness of the environment, after you have traversed two of these courtyards to the last doorway on the right, is dissipated by the cheery smile of a stout Breton sewing woman, who ushers you without delay through a long, dark corridor to a small, dark study at the end. Here, surrounded by books which cover the walls on all four sides, sits at his desk the professor. His slender figure, clad in professional black, is somewhat bent by the deep study which has made his fame. But otherwise his sixty-seven years sit lightly upon him. His greeting is grave but entirely courteous and sympathetic, an intelligent curiosity concerning the field of research to which he has devoted his life being all that is required to rouse his interest and unlock his store of strange and interesting facts. The interview is had pursuant to an appointment, and he plunges at once into the subject, referring to his address of April 5th before the Society of Chemical and Mechanical Industries.

#### COMPOUND TABLETS IN PLACE OF BEEFSTEAKS IN THE YEAR 2,000.

"That address," he says, "was in the nature of an after-dinner speech rather than a scientific pronouncement. We do not use the dryer language of science upon festive occasions. I was speaking, however, to an association of chemists, and I believe that all I predicted upon that occasion will in the process of time, say the year 2,000, be actually or approximately the existing state of affairs. I said that new sources of mechanical energy would largely replace the present use of coal, and that a great proportion of our staple foods, which we now obtain by natural growth, would be manufactured direct, through the advance of synthetic chemistry, from their constituent elements, carbon, hydrogen, oxygen and nitrogen. I not only believe this, but I am unable to doubt it. The direction of our present progress is along an easily discerned line, and can lead to only one end."

"Do you mean to predict that all our milk, eggs, meat, and flour will in the future be made in factories?"

"Why not, if it proves cheaper and better to make the same materials than to grow them? The first steps, and you know that it is always the first step that counts, have already been taken. It is many years, you must remember, since I first succeeded in making fat direct from its elements. I do not say that we shall give you artificial beefsteaks at once, nor do I say that we shall ever give you the beefsteak as we now obtain and cook it. We shall give you the same identical food, however, chemically, digestively, and nutritively speaking. Its form will differ, because it will probably be a tablet. But it will be a tablet of any colour and shape that it desired, and will, I think, entirely satisfy the epicurean senses of the future, for you must remember that the beefsteak of to-day is not the most perfect of pictures either in colour or composition."

This declaration from so high an authority was somewhat staggering. It was an unexpected blow at a tender (usually tender) and long-loved household idol. The common or garden beefsteak suddenly took upon itself a poetry and a pathos in the mind of the writer which could only have been born of its prospective superannuation. The idea of glass cows and brass beefsteak machines was truly scientific, but there was a lack of poetry in it which was scarcely modified by the hope that the beefsteaks of the future might, could, and would be the reverse of tough.

#### THE PRESENT IMPORTANCE OF CHEMISTRY IN FOOD-MAKING.

"To comprehend what I mean by the tendency of the time," continued Prof. Berthelot, "you must consider the long evolution which has characterised the development of foods and the major part which chemistry has played therein. The point is, that from the earliest time we have steadily increased our reliance upon chemistry in food production, and just as steadily diminished our reliance upon nature. Primitive man ate his food and vegetables raw. When he began to cook, when he first used fire, chemistry made its first intrusion upon the sphere of nature. To-day the fire in the open air has been replaced by the kitchen. Every cooking utensil now used represents some one of the chemical arts. Stoves, saucepans, and pottery are the results of chemical industries. So, also, modern cookery uses an indefinite

number of compounds, food compounds, which, like sugar for instance, have been subjected to a more or less complex chemical treatment in their journey from the field in which they grew to the kitchen in which they are used. The ultimate result is clear: Chemistry has furnished the utensils, it has prepared the foods, and now it only remains for chemistry to make the foods themselves which it has already begun to do."

#### CHEMICAL POSSIBILITIES BOUND TO BECOME COMMERCIAL POSSIBILITIES.

Before proceeding to describe what synthetic chemistry has already done in this direction the Professor said, by way of preface:—

"There is a distinction which I would like to make at this point between the laboratory stage and the commercial stage of any given discovery in food making. From the scientific standpoint the laboratory result is the important one. As you and all the world know, the commercial result follows inevitably in time. Once science has declared that a desired end is attainable the genius of invention fastens upon the problem and the commercial production of the result slowly attains perfection by gradually improved processes at less and less cost. Take aluminium, for instance. Once a very expensive metal, its steadily decreased cost in production is bringing it within the reach of all. The use of sugar is universal. Sugar has recently been made in the laboratory from glycerine which I first made direct from synthetic alcohol. Commerce has now taken up the question, and I see that an invention has recently been patented by which sugar is to be made upon a commercial scale from two gases at something like one cent. per pound. As to whether or not the gentlemen who own the process can do what the inventor claims, it is neither my province nor my desire to express an opinion. It may be that the commercial synthetic manufacture of sugar is a more difficult task than they imagine. I have not the slightest doubt, however, that sugar will eventually be manufactured on the largest scale synthetically, and that the culture of the sugar cane and the beet root will be abandoned because they have ceased to pay. Look at alizarin. There is one result of the same kind that synthetic chemistry has already brought about."

"What is alizarin?"

#### A GREAT AGRICULTURAL INDUSTRY DESTROYED BY THE CHEMISTS.

"Alizarin is a compound whose synthetic manufacture by chemists has destroyed a great agricultural industry. It is the essential commercial principle of the madder root, which was once used in dyeing wherever dyeing was carried on. The madder root was grown to an enormous extent in Persia, India, and the Levant, and spread from there to Spain, Holland, and the Rhine provinces. Continental Europe used it in enormous quantities, and twenty years ago its annual import into England was valued at 6,250,000 dols. The discovery was made, however, that alizarin could be manufactured synthetically, and the artificial production of it has so far supplanted the natural that the madder fields, so far as Europe is concerned, have practically ceased to exist. So with indigo. The chemists have now succeeded in making pure indigo direct from its elements, and it will soon be a commercial product. Then the indigo fields, like the madder fields, will be abandoned, industrial laboratories having usurped their place."

#### TEA, COFFEE, AND COCOA MIGHT BE MADE NOW.

"So far as dye stuffs were concerned, the intervention of chemistry seemed not unnatural. They were chemical products and seemed to fall naturally into the sphere of the chemist. When it came to tobacco and tea and coffee, however, synthetic chemistry seemed to be getting nearer home, invading the family circle, so to say. It appeared, however, that not only are tobacco and tea and coffee to be manufactured directly and artificially, but there is substantial promise that such tobaccos, such teas and such coffees as the world has never seen will be the outcome. This promise may be understood in two ways, but the highest superlative is the degree in which it is to be taken, and the development of the point was full of interest."

"Tea and coffee could now be made artificially," he said, "if the necessity should arise, or the commercial opportunity, through the necessary supplementary mechanical inventions, had been reached. The essential principle of both tea and coffee is the same

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compound. The difference of name between theine and caffeine has arisen from the sources from which they were obtained, but they are chemically identical in constitution. It has often been made synthetically. The scale of manufacture of synthetic ladder is as follows:

"Carbon and oxygen make carbonic oxide.

"Carbonic oxide and chlorine make carbonyl chloride.

"Carbonyl chloride and ammonia make urea, whence uric acid.

"Uric acid transforms into xanthine.

"Xanthine yields theobromine.

"Theobromine yields theine of caffeine.

"Theobromine, you remember, is the essential principle of cocoa. Thus, you see, synthetic chemistry is getting ready to furnish, from its laboratories, the three great non-alcoholic beverages in general use. The tea plants, coffee shrubs, and cocoa trees must some day follow the lead of madder and indigo."

"And what about tobacco?"

#### HIGH-GRADE ARTIFICIAL TOBACCO POSSIBLE.

"The essential principle of tobacco, as you know, is nicotine. I have obtained pure nicotine, whose chemical constitution is perfectly understood, by treating salomine, a natural glucoside, with hydrogen. Synthetic chemistry has not made nicotine directly as yet, but it has very nearly reached it, and the laboratory manufacture of nicotine may fairly be expected at any time. Conine, the poisonous principle of hemlock, has been made synthetically, and it is so close in its constitution to nicotine, and so clearly of the same class, that only its transformation into nicotine remains to be mastered, a problem which is not very difficult when compared with others which have been solved. The parent compound from which the nicotine of commerce will be made exists in coal tar."

"You believe, then, that all our tobacco will some day be made artificially?"

"To as great an extent as appears desirable. The choicer growths, with their individual characteristics, from individual sources of growth, will be longest cultivated. The tobacco leaf is simply so much dried vegetable matter, in which nicotine is naturally stored. Chemistry will first make the nicotine, and impregnate any desirable leaf with it to any degree of strength. Later on, if necessary, it will also make the leaf. In some directions it is not difficult to improve upon nature, and the best chemical medium for carrying nicotine might easily prove superior to the natural."

Having weakly permitted his beefsteak to be carried by storm, the writer was all the more inclined to defend his tobacco.

"But surely," said he, "there is something more in fine tobacco than merely nicotine and vegetable fibre."

"Precisely. Leaving aside what the manufacturers may add, there are delicate flavouring oils which chemistry will also create. Vanilla, a flavouring compound of very general use, has always been obtained until recently from the tonka bean. Now artificial vanillin, the same compound made chemically, threatens to drive the natural vanilla out of the European market, and will doubtless succeed in doing so as its manufacture is perfected. In fact, some of the chocolate and confectionery manufacturers are already taking it up. All the essential oils will eventually be made direct. Vanillin is very near in its chemical constitution to the aromatic, the distinctive principle, of cloves and allspice. Artificial cloves and allspice will therefore probably come next. Flower perfumes, too, have been fully analysed, and in time will be largely synthetised. One of them, meadow-sweet, is being largely compounded and sold. There are, consequently, no virtues in the natural tobacco which are likely to be missed in the artificial. In fact, the contrary state is more probable."

I must reserve to a subsequent letter what further Professor Berthelot had to say to me in exposition and support of his startling prophecy, for there was much else of the highest interest.—H. J. W. Dam in *N. Y. Sun*.

#### ADULTERATED LARD.

AT the Pontypridd Police-court on August 22nd, James Kidley, Pontypridd, was charged with selling adulterated lard.—Superintendent Jones said on the 21st July he visited the shop of defendant and purchased a quarter-pound of lard, for which he paid 1½d. He sent the sample to the public analyst, and his analysis showed that the lard contained 85 per cent. of pure lard and 15 per cent. of beef stearine. Defendant told the officer that he purchased the lard at a sale at Cardiff.—Defendant was fined 2s. 6d. and costs.

#### THE ADULTERATION OF IRISH BUTTER.

AT Tipperary on August 24th, Michael Kiely, was prosecuted by Sergeant Wm. Clarke, R.I.C. inspector under the Food and Drugs Act, for having sold butter adulterated with water.

Sergeant Clarke deposed that he purchased butter from the defendant for analysis, and Sir Charles Cameron, public analyst, certified that the butter contained 21 per cent. of water, 16 per cent. being the largest amount permitted.

Colonel Evanson said that they need not hold that there was intention to defraud. There was no fixed standard in the United Kingdom which showed that it should not be 21 per cent. or more than 16 per cent.

Mr. Dobbyn said that about 21 per cent. was the character of the butter sold in the Tipperary market.

Sergeant Clarke said that he had sent away samples which showed 3 per cent. of water below 21, in which there would be prosecutions.

Mr. Frewn said that people complained of too much interference on the part of the police, and he thought that if that were the case the sooner the market was stopped the better, because people could not be harassed by the police.

Mr. Yates, district inspector, said that complaints had been made to the inspector-general by merchants in Manchester asking him to have serious notice taken of the adulteration of butter in the Tipperary market.

Colonel Evanson said that some action was necessary to aid magistrates in coming to a decision in these cases. They were all in a very difficult position in consequence of the Manchester case and the certificate of Sir Charles Cameron. They would dismiss the case.

#### AN AMERICAN MILK YARN.

E. MARSH, of Mineral township, in America, comes to the front with a story that is both wonderful and unique, but true in every detail. About five weeks ago a Durham-Alderney cow, aged two years, gave birth to a calf, and they began to milk the cow, but were thunderstruck when they discovered that its milk was black. The calf, however, thrived upon the milk, and last week Mrs. Marsh, having overcome her prejudices, decided to try some of the milk. It tasted the same as other milk, only it was much richer, and by leaving a crock of it to set four hours nearly two inches of cream, a little lighter in colour than the milk, would rise to the top. Two gallons of the cream were churned and four pounds of butter were secured. The butter was examined by a chemist, who pronounced it perfect butter only in colour, and gave the reason for the colour something yet unknown to science in the blood of the animal. The butter much resembles coal tar and has a delicious taste. People are coming from far and near to see the freak, and Mr. Marsh has been offered big sums for the cow. He has decided not to sell her, however, in the hope that he can raise some more stock of the same kind. A roll of butter will shortly be sent to Franklin and placed on exhibition. The milk makes fairly good ink and the cream might be used for printers' ink.

#### SKIN DISEASE IN SHOREDITCH INFIRMARY—ALLEGED DANGEROUS MILK.

THE House Committee reported that skin disease was still prevalent in the infirmary. The clerk said that, as directed, he sent a copy of the analytical report of Dr. Cruickshank on the milk supplied to the institution to the milk contractors, showing that it contained microbes of a serious character, causing putrefaction of the milk; and the patients ought certainly to have better milk. The contractors had replied to the effect that they could offer no explanation. They could not account for the state of things, and enclosed an analysis of the same milk made by Dr. Redwood, stating the milk was very rich. Dr. Forbes, the medical officer, said he believed that deaths had been caused in the infirmary by the milk, and he refused to use it. He asked the Board's permission to use condensed milk. Mr. King called attention to the seeming discrepancy between the analyses, but Dr. Hunt explained that there was no discrepancy whatever. The Board's analyst had made a bacteriological report, and had discovered serious microbes in the milk without any reference to its richness. The other analyst simply proved that the milk was rich in solids. Milk might be rich and yet contain a cholera germ. The chairman said it was very important to have pure milk for those patients who were on milk diet entirely. Mr. Barnard said that in Bethnal Green they had an outbreak of skin disease in the workhouse similar to that now prevailing in Shoreditch. They changed the contractor, paying more for the milk, and had not any cases since. They had a very good system at Bethnal Green of having a weekly analysis of the milk, and he suggested that the Shoreditch Board would do well to allow the doctor to adopt a similar course.—Mr. Cox: It would be rather strange to keep up a big establishment like this on condensed milk. I must confess that, personally, I do not like tinned milk.—The Rev. J. Cartmel Robinson: Nor I. As a matter of urgency, I would suggest that the matter be referred to the House Committee to see if we cannot have cow milk. Eventually the subject was referred to the committee as suggested.

A MILK WARRANTY.—George Dowse, trading as the Callow Park Milk Company, Station, Hednesford, was summoned on August 27th, at the petty sessions, for selling milk in an altered state without making a disclosure to the purchaser to that effect. Mr. Willcock appeared in support of the summons, taken out at the instance of Mr. Van Tromp Harrold, and Mr. Loxton defended. On July 20th an assistant inspector under the Food and Drugs Act purchased some milk from the defendant's men. On analysis it was found to be deficient in cream to the extent of 31 per cent.—Mr. Loxton relied for his defence on a warranty contained in an agreement from the person for whom his client purchased the milk, and to a statement to the effect that it was new milk, on a label attached to the can.—The magistrates, however, held that this was not a warranty within the meaning of the Act, and imposed a fine of £5, and costs £1 7s. 6d.



## THE SELECT COMMITTEE ON ADULTERATION.

## VIII.

(Continued from page 270.)

PERHAPS as you have given the tests with regard to milk, it would be of value to the Committee if you could give briefly in clear popular terms, what tests you consider satisfactory with reference to determining the presence of foreign fats and the proportion of foreign fats in any sample of butter?—Perhaps it would be better to start with the general principle first. In a butter we have there a certain percentage within certain limits of insoluble fatty acids, and a certain proportion within certain limits of soluble fatty acids. In a foreign fat nearly the whole is insoluble fatty acids. It follows that if a foreign fat be added to a butter it will increase the percentage of insoluble fatty acids and diminish the quantity of soluble fatty acids. In the analysis of the sample we determine the quantity or the proportion of insoluble fatty acids, and also the proportion of soluble fatty acids. When we have these percentages we have to go back to the variations in genuine butters, in the insoluble and soluble fatty acids; then from the physical conditions of the sample, from the results of the analysis, we have to determine whether the sample that we examine is a genuine butter or whether it contains a foreign fat.—Mr. Whiteley: Can you tell that with absolute accuracy?—You cannot, I am sorry to say, because the butter varies largely in composition itself.—Mr. Frye: I suppose that the fat in the milk and the fat in the cow or bullock would be the same?—To a certain extent, not entirely; you get a slightly different composition in butter from what you get in the fat of the bullock.—Mr. Whiteley: I think in your previous answers you said that margarine fat exists in milk?—Certainly.—Mr. Channing: The chemical fatty acids exist, do they not, in all these dairy products?—Yes; but when you come to ordinary margarine, in an ordinary butter, there is something else besides that; the fats of margarine do exist in the butter, plus the soluble parts that do not exist in the margarine.—Mr. Herbert Gardner: Do the insoluble fatty acids exist in the milk?—Yes.—Identical with that which exists in the margarine?—Exactly, plus—Plus other substances?—Yes, plus other fats.—Mr. Channing: So far as you have gone now, I suppose that it would give you a test for the presence of foreign fats?—Within certain limits. This is the difficulty about the examination of butter, that you require to have all kinds of butter, fresh and salt, and you require to have the butter under all conditions of keeping; and therefore you find great variations in the composition of butter according to the keeping.—You require to have regard to the physical conditions?—Yes; and then the margin that is allowed you is so wide that the adulterators could take an ordinary butter of good quality and add to that a quantity of foreign fat, and in chemical composition it will correspond with genuine *bona fide* butter.—But how do you determine the proportion of foreign fats present?—We can only do that when we get beyond certain limits.—Mr. Frye: What are those limits?—I will give you a case in point. If you take a fresh butter, the probability is that you will get of insoluble fatty acids about 87 or 88 per cent; in the case of a fat you will get of insoluble and fatty acids something like 96 per cent.; and when you go on the basis of calculation of, we will say, 87 to 96, 9 per cent. represents all the difference that there is between the genuine butter on the one side and margarine (where the butter is absent) on the other side. Now, in the case of butter that has been kept, you may have your insoluble fatty acids go up as high as 89 per cent.; it follows, then, as a matter of course, if you take your first 87 per cent. that you have got 2 per cent. there in the butter of change, and that may be either due to the change of decomposition in the butter itself, or it may be due to the addition of foreign fat; but the 2 divided by 9 shows a 20 per cent. margin for adulteration.—Mr. Channing: Allowing for those limits that you have to apply, can you estimate the result in figures of the proportion of foreign fats present in any sample?—Only beyond that. It follows as a matter of course that for a standard or limit you must start at a point that gives a large margin for adulteration.—I am speaking not as a chemist but merely as having considered the question in manuals. Is there not a test by placing butter and margarine at an equal temperature in certain portions of alcohol which will enable you to test it?—We have tried the experiment and we find that it does not answer; it does not show that.—Mr. Channing: That test is used in America, as I dare say you are aware?—Yes, but it is quite fallacious.—You do not consider it satisfactory?—I am certain it is not.—Are you satisfied with the other test that is called by the name of saponification?—That is the test I have been describing.—And which you adopt?—Yes.—Does not that work out in figures?—Yes, but only in the limits I tell you, because the butter itself may be so different in constitution owing to its physical condition, that it gives so much more margin for the addition of foreign fat.—Does the condition make a very considerable difference in the amount of potassium which is absorbed?—Yes, it does, because that has all to be worked out into percentages again.—I see that 2·27 milligrammes is used in America as about the standard of pure butter?—That may be taken as the standard of pure butter; but at the same time they have to take into account the alterations in the physical condition of the butter, and therefore they cannot make a sharp line as you can in the case of chicory and coffee where chicory has been added to coffee, because with chicory you can detect 1 per cent. The

physical structure is different, and it does not apply to a thing like butter and margarine.—You throw serious doubts on the wisdom of American analysts and other analysts, like Hehner, who have employed these tests, in selecting as the figure 2·27 milligrammes of potassium hydroxyde. What is the test that you would apply?—I should like to look into the whole question if you will allow me. If you will ask me the question on Wednesday next I shall be happy to answer it.—But we take it from you that within the limits suggested by the physical conditions of the butter, which I suppose are conditions which a man of skill and experience and intelligence would be able to estimate fairly, a capable analyst would be able to approximately state the amount of foreign fat present?—Yes, he would understate it as a rule.—There is one question that I want to ask you with regard to these tests, which I think you will be able to answer at once; that is that those oils, to which Mr. Herbert Gardner drew your attention in his examination will require a higher percentage of potassium than pure butter, will they not?—Yes.—And that is one of the chief advantages that the adulterators have in using them, namely, that it enables them to avoid detection?—Exactly so.—What is arachis; what substance is it taken from?—I do not know its origin.—With regard to the working of the Margarine Act, I do not know whether you are prepared to give us any evidence as to the colouring question, or whether you do not consider that it comes under your jurisdiction?—I think that there should be a right to colour margarine in the same way as the colouring of butter is allowed.—Mr. Frye: They are both coloured, are they not?—Yes.—Mr. Herbert Gardner: What is butter coloured with?—Anatto, usually.—Mr. Channing: One main object of these Acts is to prevent misrepresentation, is it not?—Yes.—In your opinion would it not be a greater advantage to the purchaser if colouring matter were prohibited in the case of these foreign adulterated fats; I mean to say margarines of all kinds?—Any regulation of that kind must increase the price of the finished article, and so we have to take into consideration the feeling or wish of the purchaser as well as the fact of the colourisation in a particular way or non-colourisation for the purpose of identity of some particular article. Is there any advantage to the consumer in colouring margarine?—There is the same advantage as there is in the colouring of butter, I suppose; he likes it.—But it enables him to be defrauded of a certain amount of value of the article more easily, does it not?—I should not like to say that. But there is no doubt that we like anything that we eat to be attractive to the eye.—Is it a fact that a large majority of samples of butter found to be adulterated are blends of butter and margarine, and not margarine pure and simple?—They are blends of butter.—Mr. Frye: Mixtures, as they are called?—Yes, mixtures.—Mr. Channing: Have you any opinion as to the extent that margarine may be mixed with butter and remain undetected by your test; what percentage, would you say, could be added without detection?—From 7 to 15 or 16 per cent.—Mr. Kearley: It would vary according to the quality of the margarine, would it not?—That is the reason why I answered it so.—Mr. Frye: That shows that margarine is really butter, does it not, to all intents and purposes?—Mr. Channing: You have stated the number of cows in milk, and I suppose you have stated also the amount of imported butter; I do not know whether you stated also the amount of home butter brought into the market, but is your impression that the number of samples taken at present is anything like enough to check fraud and misrepresentation of butter by the use of butter substitutes?—I think that the number of samples taken either for butter or milk is not sufficient for the purpose of detecting adulteration.—Is not one difficulty in the taking of samples that those officially employed to take samples are perfectly well known to most of the fraudulent dealers?—But they do not take the samples themselves; a judicious sampler uses all sorts of people for the purpose of taking samples; he is not far away, but he uses different kinds of people for the purpose of making his purchases.—Private persons may do so, but does the inspector do so?—The inspector does so.—Is the official entitled to use any deputy?—Yes. I have known cases where women have been sent in to purchase samples, because they would not be sold to the inspector.—Mr. Frye: That is commonly the case, is it not?—Yes.—Mr. Kearley: It is the usual method?—Yes.—The inspector rarely comes himself until he comes to announce himself after the sample has been bought?—Yes.—Mr. Channing: As to the milk standard you were unable to state the standard adopted in Paris, but you were aware of the standard adopted in New York. Are you aware that the standard adopted in another of the American States, the State of Massachusetts, is still higher than that of New York?—I believe it is, but I should also like to ask whether it is in full use in that particular State.—The presumption, so far as we have any evidence, then, is that higher standards are required both in the United States and abroad than are in demand here?—It appears so.—Therefore the law is, if anything, more favourable to the dealer who may be brought under the Adulteration Acts here than it is abroad?—Yes.

LIEUT.-COL. JOHN FREDERICK CURTICE HAYWARD, examined on July 13th.

Sir Walter Forster: I believe you are connected with an association which was formed in 1892, called the Dairy Produce Defence Association?—Yes.—Have you held any official position in connection with that association?—I held a nominal position as treasurer.—But you are acquainted with the proceedings, of the association and have attended all the meetings.—I was one of the chief promoters in fact, on the committee.—What were the objects of your association?—The object of the association was to see the



extent to which adulteration existed, particularly in butter and milk, in Gloucestershire, and more especially in the towns of Gloucester and Cheltenham. Gloucester, I may say, is a town where the Adulteration Acts have been always in abeyance; and in the county of which Cheltenham formed part, before the County Council undertook the work, the court of quarter sessions carried out the Adulteration Acts through the chief constable and the police. But I and others were struck with the small number of articles which were found to be adulterated, and we thought that it did not give the true state of the amount of adulteration which took place; therefore we wished to form this committee to see first of all to what extent adulteration in butter existed. And in milk?—And in milk; but we did not get to milk; we only dealt with butter, and we selected Gloucester, as our headquarters were in Gloucester, as the first field of our operations.—Did you find reason in the course of your inquiries to suppose that adulteration of butter extensively prevailed?—We did.—What steps did you take in the first instance?—We purchased samples of butter from 94 shops in the city of Gloucester, but I find that we did not submit all of them for analysis; we submitted, I believe, about 64 of them for analysis.—That is to say, that about two-thirds of the number of samples were submitted for analysis, roughly speaking?—Yes.—What was the result of that analysis?—The public analyst reported that 15, I believe it was, of the samples were very largely adulterated.—With what?—With foreign fats.—Was the extent of the adulteration considerable?—None of those cases had less than 20 per cent., and some I believe 50 per cent. of foreign fats.—After making that discovery, did you take any second step?—We then went to the Corporation, or rather to the town clerk, and to the officer who is deputed by the Corporation to carry out the Adulteration Acts, or rather in whose hands the Adulteration Acts are placed, though, as I have said before, they have not been carried out, and asked them to take steps to enforce the Acts. Did the Corporation acquiesce in your suggestions?—The officer at once said that he would take samples, and he proceeded to do so, but he was not so successful as we had been, from what cause I do not exactly know, but he only got evidence in four cases, which was considered sufficient for a prosecution, and there was a conviction in each of those four cases.—Mr. Channing: Out of how many samples that he took did he get those four cases?—I believe he tried all the 15; that I will not be certain about, but he intended to take samples from the whole of the 15, and he only got four.—Chairman: All you know is that the four cases were prosecuted?—Yes. And convicted?—Yes.—Do you know any details of the convictions?—They were fined in three cases £5 each, and the other case, I fancy, was an old offender, who was fined £15 and costs.—Do you know what was the amount of adulteration in those cases?—No, I do not. I think the public analyst will be able to give you that information.—Mr. Yerburch.—Were those the 15 cases in which your association discovered that there was adulteration?—Yes.—I understand that the officer went to those particular shops?—Yes, he was to take samples from those particular shops of which we gave him the names.—Mr. Kearly.—Do those 15 samples represent 15 different vendors?—Yes.—Chairman: As regards Cheltenham, was anything done there?—At that time I brought the subject of adulteration to the notice of the County Council, and pointed out to them that though we were taking steps to enforce the Adulteration Acts by the police, we did not get at the offenders; they only, in fact, caught those who were not very clever at it; and I got a committee appointed by the County Council to inquire into the matter. The chief constable was a member of that committee, and he told me that it was only in Gloucester, where the Acts were not carried out, that there was adulteration; that in Cheltenham he had made careful inquiries, and had taken samples, and he was quite certain that adulteration did not exist there. We were going to have a committee meeting in about two or three days, and I felt that my case would utterly break down if that was not contradicted; I therefore went at once to the same person who had undertaken to get those samples in Gloucester, and told him at once to go and take samples in Cheltenham; he did so, and submitted them to the analyst. I cannot give you the exact number, I think it was 11; but there were a considerable number of them found to be adulterated.—Were those purchases made in Cheltenham on behalf of your association?—Yes.—Did you find that it was well to employ men or women to make purchases?—We employed

women.—Why?—Because it is no use a man buying butter; the vendors are suspicious at once if you send a man to buy butter. In the same way, if you were to send a woman to go, perhaps to buy whiskey, there would be a suspicion. You must send a proper agent; it is no use sending a man to buy butter.—In fact, you believe that the suspicions of fraudulent traders were lulled when a woman appeared, rather than when a man appeared?—Yes.—They were excited by the appearance of a man buying an article of that kind?—Yes.—And your method probably gained you better results than if male officials had been employed to obtain samples?—Certainly; it is no use, for instance, to send the police. The police say that they go in plain clothes, but a policeman in plain clothes is unmistakable. State the ground on which you account for the different results obtained by the Corporation of Gloucester from those which you obtained in the first instance?—Yes; that the samples were not taken skilfully.—Of course it might be that the people were warned by your previous inquiry?—I do not think they would be warned by our inquiry; but directly that an officer deputed to take samples for analysis comes in, after the very first case that he takes, the news goes all over the town, and it is no use his taking any more samples.—Do not you think that the news of the formation of your association went over the city of Gloucester?—No, I do not think so; I think it was kept very quiet. It seems that your association did not live very long?—No. It seems to have died almost over its first effort?—It died after we had made our first effort.—And it has been in a state of suspended animation ever since?—Yes. So that you really have no evidence to give us as to how the thing has been going on with regard to Gloucestershire or Cheltenham since that time?—No. Do you know whether any samples of butter have been since taken in Gloucester?—I believe that none have been taken since that time. The corporation have not gone on with the work?—Not at all. Why did you get into this state of suspended animation?—We found that it cost a good deal of money. It wanted some one or other who could give nearly his whole time to it, and the gentleman who was an honorary secretary, and who was a very energetic man, found that he could not give any more time to it, and although we had not quite exhausted our funds, we should have to go to the sources from which we got our money before, for fresh funds to make any more investigations or to take up any fresh towns.—Then the fact is that the Dairy Produce Defence Association existed in a state of activity for a very short time, came nearly to the end of its funds, and then ceased operations?—Yes, exactly so.—The whole result of this work being the analysis of, say, 60 samples of butter?—Some 80 samples of butter, and of course the expenses attendant on procuring them.—You contend, however, that during its short existence the association did useful work? I think it did very useful work.—In what respect?—I think we showed that adulteration exists to a large extent, and that corporations like Gloucester do not carry out the Adulteration Acts unless very strong pressure is put upon them. Anything else?—I think also that we showed that even where the Acts are carried out, as they are in the county of Gloucester, by the police, the police are hardly the agents to use for that purpose; that it is detective work, and not police work.—You mean that it requires to be conducted with a greater amount of skill and care than is possible in the ordinary duties of the police?—Precisely. Is it not a remarkable thing that if in the city of Gloucester you were able to expose a considerable amount of adulteration of a staple article of food, the citizens have not required the Corporation to take steps to protect them against such funds?—I am afraid that they are very apathetic about it. That is to say, that the people do not care?—No, I do not think the authorities care at all; they think it would be unpopular. But the citizens of the city of Gloucester elect their authorities, do they not?—Yes, but then that very process prevents them, from fear of courting momentary unpopularity from carrying out the Acts; that is the only way in which I can explain it.—Would you not consider that there would be more unpopularity, on the part of the purchasers, who are a great number, than on the part of the vendors, who are a small number?—I should have thought so, but I am afraid there is not.—I do not think they appreciate the way in which they are being defrauded.—Then it is a question for societies like yours to educate the public up to a proper standard, is it not?—I do not know.

(To be continued.)

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## Food and Sanitation.

SATURDAY, SEPTEMBER 8TH, 1894.

### THE MYSTERY OF THE TREASURY AND CIVIL SERVANTS.

**À-PROPOS** of the scandal of Mr. Bannister, official referee under the Food and Drugs Acts, being himself, in defiance of the prohibition in clause 10 of the Food and Drugs Act, 1875, directly engaged in the sale of food and drugs as Chairman of the Civil Service Stores, the following notification is interesting.

#### CIVIL SERVANTS AND DISTRICT AND PARISH COUNCILS.

It was notified on September 4th to the civil establishments of the War Department that the Treasury have had under consideration the question whether civil servants shall be permitted to serve on district or parish councils, and that the commissioners adhere to the views formerly expressed as to the possibility of the duties of the second office interfering with the efficient discharge of those to which an officer is required to devote his whole time, either by

making it difficult to give full and regular attendance, or by so increasing the demands on his energies as to react injuriously on the discharge of his public duties. "For this reason, the Board of Treasury have communicated to the heads of the several public departments their opinion that members of the service, whether in the higher or second division, should not undertake outside work of any description which is incompatible with the devotion of their whole official time to the public, or which may conflict with the duties of their offices. Applying this principle to the case before them, my lords are of opinion that it should exclude an established civil servant from serving on any district council the meetings of which are held during hours required for official duty. The case is different as regards parish councils. Their constitution makes it improbable that their sittings will be frequent, or that they will take place within the ordinary office hours of the Civil Service; and my lords consider that so long as the head of a department is satisfied that the necessary attendance does not interfere with a civil servant's official duties, such civil servant will be at liberty to serve. If, however, it should be found that in any particular case the duties of the two servants do in fact conflict, their lordships think it essential that power should be retained to the head of the department to require the civil servant to retire from the council."

If the efficient discharge of a civil servant's duties is interfered with by his acting on a parish council, it is apparent that the amount of attention required to act as chairman of a trading concern of such magnitude as The Civil Service Stores must be calculated to react far more injuriously on the discharge of a civil servant's duties, and if the Treasury do not put an end to the scandal at once it is clear that they have different codes of official morality for different persons.

### COFFEE ADULTERATION.

At Larne Petty Sessions on August 28th, William Stewart Beggs, grocer, Larne, was summoned by Sergeant M'Givney, *ex-officio* inspector under the Food and Drugs Act, for having sold, to the prejudice of the purchaser, a quantity of chicory and coffee which was not of the nature, substance, and quality demanded by him, same having been adulterated by the addition of an excessive amount—namely, 75 per cent.—of chicory. Mr. J. W. M'Ninch appeared for the defendant. The case had been adjourned from last Court day in order that Mr. Orr might look up a decision in the matter. He now handed this to Mr. M'Ninch, remarking it was rather in his (Mr. M'Ninch's) favour. Mr. M'Ninch said that some of the cases quoted by the sergeant on last Court day appeared also to bear him out. He admitted they sold this mixture. The mixture was labelled, and the sergeant knew it was a mixture of coffee and chicory. He thought it was admitted also that they had sold it in the same state as they got it. They admitted Dr. Hodges's analysis. The defendant having been examined, and proved that he had sold the mixture in the same state as he had got it, Mr. M'Ninch read a number of decisions on the subject, but the magistrates agreed to dismiss the case without prejudice, at the same time complimenting the sergeant on the manner he had brought it forward.

### A CALLOW PARK COMPANY'S MILK WARRANTY FAILS.

At Penkridge Police-court on August 27th, George Arthur Dowse, 27, Caledonian-road, King's-cross, London, trading as the Callow Park Milk Company, was summoned by Mr. Van Tromp, inspector under the Sale of Food and Drugs Act, for infringing the provision of the Act named. Mr. Wilcock prosecuted, and Mr. Loxton defended.—Half-a-pint of milk was bought by an assistant inspector at Hednesford from a man named Wood, who was in the employ of the defendant. A portion of the milk was submitted to the county analyst, who certified that 36 per cent. of the cream had been extracted. The fact that the cream had been extracted was not disputed by Mr. Loxton, who set up the defence that the milk which was supplied to the defendant by a farmer at Eccleshall, was warranted to be pure, and he put in the label which was attached to the churn by which the milk in question arrived at Hednesford, as well as the agreement between the defendant and the farmer, which specified that the milk supplied was to be pure. On the label was a sentence guaranteeing the milk to be pure, and Mr. Loxton argued that the label, in conjunction with the agreement, constituted such a warranty as relieved the defendant from prosecution.—Mr. Wilcock argued that it was not a written warranty within the meaning of the Act, and that view was taken by the Bench, who fined defendant £5 and costs, the chairman saying that while they were sorry for the defendant they felt they could not in the face of the analyst's certificate do otherwise than impose a fine, for defendant must be held responsible for the acts of his servants.



## A QUEER BEEF EXTRACT ANALYSIS.

KEMMERICH has recently (*Zeit. f. physiol. Chem.*, xviii.) published the following analysis of South American beef extract :  
 15 to 18 per cent. .... Water.

33.23 per cent. albuminous substances,	6.19 per cent. gelatine.
	9.89 per cent. albumoses.
	4.87 per cent. soluble albuminous substances.
	12.31 per cent. peptones soluble in 80 per cent. alcohol.
51.77 per cent. ....	20 to 22.34 per cent. ash.
	1.22 per cent. glycogen.
	4.33 per cent. kreatinin.
	0.25 to 1 per cent. carmin.
	1 per cent. fat.
	18 to 22.09 per cent. extractives, mostly unknown.
	0.91 per cent. ammonia.

100 per cent. containing 8.13 per cent. nitrogen.

Here we see it stated that fully one-third of the total constituents is albuminous substances, a large part of which is directly available. This favourable composition is doubtless to be attributed to the use of methods of analysis peculiar to Kemmerich alone. We very much doubt if such a result could be obtained by any English analyst of repute.

## COFFEE ADULTERATION.

At Chapel-en-le-Frith Petty Sessions on August 25th, Mr. Ralph Walker, grocer, Bradwell, was summoned for selling coffee not of the nature, substance, and quality demanded on July 6th. Inspector Colonel Shortt stated that the sample in question was adulterated with 80 per cent. of chicory. There was a label on the package, but he maintained that such a label was no protection. Four-fifths of the article was chicory, so that, at the rate of 1s. 4d. per lb., no less than 1s. 0½d. was paid for chicory. His assistant was served by Mrs. Walker, and he paid 4d. for a quarter of a pound. Nothing was said as to the article being a mixture before the purchase, but on being told for what purpose it was required, Mrs. Walker pointed out that the package had a label on it stating that the contents were sold "as a mixture of chicory and coffee." Defendant stated that he sold the article as a mixture of chicory and coffee, and contended that the assistant inspector knew that it was a mixture. The clerk to the Bench said that there would be no fraud if, when people asked for coffee, they would tell them they had not coffee, but coffee and chicory. Defendant said he sold the article as he received it from the wholesale house, and he did not mix it himself. He paid 1s. per lb., and retailed it at 1s. 4d. The Bench thought defendant might have acted in ignorance of the law as to the label, and perhaps the inspector would not press the charge. Colonel Shortt said as this was the first case of the kind in the district he did not press the case, but at the same time he asked for the defendant to be ordered to pay the analyst's fee of 10s. 6d. Defendant said he sold the mixture exactly as received from Messrs. J. S. and T. Birks, of Sheffield, who also sent them the papers to wrap it in. The Bench said the law obliged them to convict, but as the costs were heavy they would only fine defendant 1s. and costs. The clerk expressed the opinion that the firm who supplied the article should pay the fine and costs.

At the same court, Mr. John Hall, grocer, Bridge-street, Bradwell, was similarly summoned. In this case the article contained 75 per cent. of chicory, but the package bore no label, and 3½d. was paid for a quarter of a pound. Defendant said they sold it as a mixture, but omitted to say so, as they usually sold it in small tins. Being out of small tins, they sold the quarter of a pound in question out of a large tin, which was labelled. The clerk pointed out that labelling was insufficient, as the attention of the purchaser must be called to the mixture. A fine of 2s. 6d. and costs was imposed.

Mr. William Williamson, grocer, 1, Dale-end, Ordnance-place, Chatham, was summoned at the County Petty Sessions for selling adulterated coffee. Mr. A. B. Hearn defended, and pleaded not guilty. Police-constable Paine proved visiting defendant's shop and asking to be supplied with a pound of coffee. He was served by a girl, and the article was handed to him in a plain bag, without any inscription, 1s. 4d. being paid for it. The certificate of the public analyst was produced, and showed that the sample analysed contained 65 per cent. of coffee and 35 per cent. of chicory. In cross-examination, the constable stated that all the other goods purchased at defendant's shop were genuine. For the defence, Mr. Hearn contended that, as there had been no guilty knowledge on the part of the defendant, he was entitled to a dismissal, and he quoted several cases in support of his argument. Mr. E. L. Baker, clerk, stated that the Bench were generally guided by the judgment of Justice Wills, viz., that a shopkeeper was liable if he did not take care to get a proper person to serve in his absence. Defendant produced proper papers in which he stated that he wrapped quarter-pounds of coffee, but explained that the pound was placed in a bag because he had no proper papers for so large a quantity, adding that he had never been asked for a pound before in his life. Defendant was fined 10s. and 12s. costs.

## MARGARINE ACT PROSECUTIONS.

At Old Hill Police-court on August 29th, John Reynolds, grocer, Lomer Town, Cradley Heath, was summoned for selling as butter an article not of the nature and quality demanded, for exposing margarine without a proper label, and for selling margarine in an unlabelled wrapper. Mr. Harold Van Tromp (inspector under the Food and Drugs Acts) prosecuted on behalf of the county. William Grassam, an assistant inspector, said on July 25th he visited defendant's shop and asked Mrs. Reynolds, who was behind the counter, for half a pound of butter, for which he paid 6d. After he had paid she said it was margarine, and he then asked her where the label was. She produced one from behind the parcel of what purported to be butter, and where it could not be seen by a purchaser. The article was delivered to him in an unlabelled wrapper, and he then divided it into three parts, and told her it would be analysed. Mr. Van Tromp produced the county analyst's certificate, which was to the effect that the sample submitted to him was margarine, containing only 14 per cent. of real butter. Mr. Bassano:—Does he do much business?—Mr. V. Tromp: I don't think he has a large shop.—Mr. Bassano: Would he be likely to sell much butter?—Mr. Van Tromp: I should think not.—Inspector Given: Defendant keeps a very small shop. Defendant said owing to sickness and inability to follow his ordinary employment he had commenced to sell a few articles, and he hoped the Bench would be lenient with him. He produced a label marked "Margarine," and said the substance was bought as butter, but as it had been in the shop since Christmas his wife put the label on it.—Mr. Bassano said if defendant was poor he had no right to rob other poor people by selling them as butter that which was not so.—Defendant: We gave "butter price" for it.—The magistrates' clerk: Had you a guarantee?—Defendant: It said "butter" on the bill.—Mr. Bassano: You will have to pay the costs, £1 4s. 6d.; and take care you don't come again, or you will be fined severely.

## SUPPRESSING ADULTERATION IN KENT.

At Dartford on August 25th Wm. Scales, grocer, of Abbey Wood, Erith, was summoned by Inspector Tucker for having sold margarine in a paper wrapper not bearing the proper lettering, as required by the Act, and, further, for selling butter not of the nature and quality demanded, on July 30th.—The analyst's certificate stated that in the first case there were 18 parts of butter and 82 parts of foreign fat.—Defendant said the basket in which the butter was kept in the shop was labelled "Margarine."—Inspector Tucker said the basket stood in such a position that no one could read the word.—For the first offence defendant was fined 30s. and costs, or 14 days, and for the second 10s. and costs, or seven days.

Christopher Field, dairyman, of Slades Green, was fined £3 and costs, or fourteen days, for selling adulterated milk at Erith. The analyst's certificate showed 88 parts milk and 12 parts added water.

## GINGER ADULTERATION.

At the Halifax (West Riding) Police-court on August 25th, John Haigh, grocer, of Glenfield-place, Warley, was charged with having sold, on June 29th last, a quantity of ground ginger which, it was alleged, was "not of the nature, substance, and quality of the article of food demanded." Mr. W. H. Boocock, solicitor, who defended, objected at the outset to the case being heard. He contended that the summons was defective and must be dismissed, inasmuch as it did not give particulars of the alleged adulteration. He quoted, in support of his contention, the case of *Barnes v. Rider* (62 *Law Journal*, M.C., 25), which was, he pointed out, a case on all fours with that now before the Court. Baron Pollock held that if particulars of the charge were not set out with sufficient clearness in the summons, a defendant would be unable to avail himself of the defence that he bought the article in the same state as sold, and with a warranty. The Bench upheld the objection, and dismissed the summons.

At Glasgow Sheriff Summary Court, on August 27th, before Mr. Sheriff-Substitute Balfour, Mrs. Mary Templeton, grocer, 99, High-street, Glasgow, was charged with having on July 26th sold to a sanitary inspector a quarter-pound of ground ginger which, on analysis, was found to contain 40 per cent. of spent or exhausted ginger. Respondent pleaded guilty, and his lordship imposed a penalty of 25s.

George McLellan, grocer, 228, High-street, pleaded guilty to having committed a similar offence on the same day, the ginger in this case containing 37 per cent. of spent ginger. He was also fined 25s.

## LINLITHGOW MILK ADULTERATION.

A CORRESPONDENT of the *West Lothian Courier* says: "Seeing the various matters taken up in your valuable paper, I beg you to grant me space in it for a word of advice to the ratepayers of Linlithgow and the surrounding districts in regard to milk. Some of it that is used is unfit for human beings to use on account of it being so low in the standard. You could let it stand from morning to night without seeing the colour of cream on it. Seeing Mr. Peter Fleming is doing his duty as an inspector of weights and measures, if only he would pay a surprise visit to some of the grocers' shops in the burgh it might do some good. I am surprised there is no one to look after the milk in Linlithgow."



**THE WOOD GREEN MILK CASE & JEROME K. JEROME.**

THE scandal of the Somerset House certificate, to which we referred last week, has been exercising the mind of Mr. Jerome K. Jerome, who thus discourses in *To-Day* of September 1st :—

"Last week a sample of milk was certified by the Middlesex county analyst to contain 5 per cent. of added water; another analyst arrived at the conclusion that the milk was pure, and two analysts at Somerset House agreed with him. The milk-dealer was summoned, and the Bench very properly accepted the Somerset House certificate, and dismissed the summons. It is a great pity that there should be any uncertainty as to what the proper standard of milk is; it would be better to fix it a little too low than to leave it doubtful. The uncertainty is likely to lead to prosecutions which should never have been undertaken, and to successful defences which should never have succeeded. In the interests of the public, as well as of the milk-dealers, the difficulty should be cleared up once for all. In the case which I have mentioned, the charge of adulteration should never have been brought, and has, so far, led to nothing but a considerable waste of time. I shall not regret it, however, if it puts an end to any uncertainty about standards."

There was a proposal some time ago that persons practising journalism should be subjected to an examination to test their knowledge of ordinary subjects, and readers of Mr. Jerome's inane opinions are to be commiserated that such a test of his fitness to explain everyday occurrences was not exacted from him before he had the "cheek and impudence" to lay down the law in *To-day* upon matters of which he has no knowledge whatever. As it is, Mr. Jerome affords a telling illustration of how it is possible to combine profound ignorance with a reputation for *new humour*—though whatever the latter may be it is hard to tell. If it be "new humour" to commend the Bench for accepting a Somerset House certificate which admitted that the percentage of fat in the milk in question was only 2·62 and declared the milk genuine, in the face of the fact that before the House of Commons select committee a few weeks ago Somerset House explicitly stated that any milk containing less than 2·75 per cent. of fat was regarded by them as adulterated, then we have no difficulty in diagnosing the "new humour," as it appears to be merely a synonym for the "old ignorance." It is a great pity that paper and print are wasted on such sorry cocksure trash as Mr. Jerome ladles out, and that he is not placed at some occupation of a useful character more befitting his abilities. We see no cause for wonder at the Moore and Burgess fiasco when it had the benefit of advice such as Mr. Jerome can give.

**IS BUTTER PERISHABLE ?**

MR. GEORGE CRAWLEY, provision dealer, Sandy, was charged at the Biggleswade Petty Sessions, with selling to Police-sergeant Robinson, butter not of the nature, substance, and quality demanded by him; and the defendant was also charged with omitting to comply with the regulations laid down in the statute as to labelling with the word "margarine," a parcel of margarine exposed for sale by retail on July 17th. Mr. Clare, who defended, said the two charges arose out of one set of facts, and he must ask the prosecution to elect which of the two they would go on with. It was not fair to the defendant that he should have two charges made against him based on the same circumstances. If one case were decided it was evident that the other would be *res judicata* and could not be heard. The complainant said he would elect to go on with the first charge and would withdraw the second. It appearing that the summons had not been served until August 16th, Mr. Clare objected to the case being heard, on the ground that the prosecution was out of time. By Section 10 of the Act it was provided that in the case of perishable articles (such, for instance, as butter, milk, and the like) the summons should be served within twenty-eight days. Here that limit had been exceeded, as the purchase took place on July 17th, and the summons (issued on August 15th) was not served until August 16th. The chairman remarked that tubs of butter or margarine might be kept for months.—Mr. Clare: The article sold by the defendant is described as butter.—The Chairman: It is a question for the Bench whether the stuff in question is perishable.—Mr. Clare

referred them to a statement on the certificate of the analyst to the effect that in the case of milk, butter, and other articles liable to decomposition it should be specified whether any change had taken place in the constitution of the article to interfere with the analysis, and to the note of the analyst that no such change had taken place. The complainant, in answer to the chairman, said he had known butter kept six months before sale sometimes. Mr. Clare cited the case of *Dixon v. Wells* (25 Queen's Bench Division, 249, to show that the judges had quashed a conviction in a case similar to this, holding that the magistrates had no jurisdiction as the prosecution was not in time. The magistrates retired to consider the point that had been raised, and on their return the chairman said, there being a doubt whether or not the word "perishable" applied to butter, they would give the defendant the benefit of it, and the case would be dismissed. There seemed, he added, to be no reason why the summons should not have been issued and served in due time.

**THE EXCESS WATER IN SPIRITS' SWINDLE.**

AT Newcastle (Mon.) Petty Sessions John Robert Fudge, landlord of the Angel Hotel, Grosmont, was summoned for adulterating whiskey, the same being 4½ degrees under proof, at Grosmont, on July 27th.—Defendant was fined £3 and costs—£3 15s. in all, which included analyst's fee.

At Deal Petty Sessions Horace Young was summoned for serving, on July 16th, a pint of whiskey to Isaac Love, which was 2·3 under the standard quality.—P.-c. Love deposed to purchasing a pint of whiskey of the defendant, for which he paid 2s. 8d.—Superintendent Kewell deposed to giving the last witness instructions to go to the public-house kept by the defendant, and purchase a pint of whiskey. The defendant was informed in his presence that the spirit had been purchased for analysing. He divided it, and sent a portion to the public analyst, at Maidstone.—Defendant, who pleaded guilty, stated that it was quite by accident it occurred. During the day he had been replenishing his stock of whiskey, and was called away before he had finished. He had a gallon more to bring up to complete his work, and in that case it would have been over the mark.—The Bench considered there was an offence against the law, and they were bound to convict. They did not think it was a very serious case, and would impose a fine of 15s., including costs.

At Mansfield Police-court on August 30th, Samuel Wilson, of Blidworth, was charged at the instance of Colonel Story, with having sold on July 3rd., gin adulterated with 9 per cent. of added water in excess of the amount allowed.—Colonel Story gave evidence as to purchasing the gin. Defendant, who stated that the part of the business was left to his man, was fined £5 and costs.—Henry Osborne, another Blidworth publican, also appeared in answer to a charge laid by Colonel Story, of having adulterated whiskey in excess of the amount allowable by law.—Colonel Story stated that he purchased a quartern of whiskey from the house of defendant, and sent a portion of it to the analyst, whose report now showed it to contain 12·5 of added water.—Fined £5 and costs.

At the Keighley Police-court on August 31st, Fred Brown, landlord of the Fleece Inn, Haworth, was fined £1 and costs for selling whiskey adulterated with water.

At Brighton Borough Bench on August 31st, Harry Harfield, of the Chain Pier Restaurant, Madeira-road, was summoned for selling half a pint of gin which was adulterated.—Mr. H. Talbot appeared for the Corporation, and Mr. H. Gates for the defendant, who pleaded guilty.—Mr. Talbot explained that the gin bought by Inspector Cuckney was found on analysis to be 39½ degrees under proof spirit, while the Food and Drugs Act only allowed it to be 35 degrees under proof.—Mr. Gates said it was purely an accident that this had happened. In the defendant's absence his wife had a quartern of gin taken from a cask and "broken down," not knowing that her husband had previously had the whole cask broken down. There had never been any complaint against him before, and he asked that the licence should not be endorsed.—Inspector Cuckney said he did not buy the gin because he had any reason to suspect the defendant.—Mr. Bunbury treated the offence as the result of carelessness only, and did not endorse the licence.

**HORLICK'S**  
**MALTED**  
**For Infants**  
**and Invalids.** **MILK**  
**CONTAINS PURE MILK, WHEAT AND BARLEY MALT.**  
**NUTRITIOUS, DIGESTIBLE. GUARANTEED ABSOLUTELY PURE.**  
**OF ALL CHEMISTS AND STORES.**  
**SAMPLES FREE. 39, SNOW HILL, E.C.**



—Fined 10s. and costs, including 10s. 6d. as analyst's fee; in default seven days' hard labour.

At Carrickfergus District Petty Sessions Sergeant M'Giveney, inspector under the Food and Drugs Act, summoned James Hamilton, publican, Ballycarry, for exposing adulterated whiskey for sale. The complainant's evidence was to the effect that on June 25th he visited the defendant's premises, and took a quantity of whiskey from a bottle in the bar. He sent it to the analyst, who certified that it was  $3\frac{1}{2}$  degrees below the stipulated standard. Defendant denied that he had adulterated the whiskey. It had had only been drawn from a stock cask three days before the sergeant's visit. A fine of 10s. and costs was imposed.

At Pontypridd Petty Sessions on August 29th William Morley, licensed victualler, Dinas, was summoned for selling adulterated whiskey on the 30th of last month. Deputy Chief-constable Jones proved the buying of the article, which, he said, on being analysed was found to be 32 degrees under proof. The defendant was fined £2.

At Sittingbourne Police-court on the 20th inst., a summons against Charles Griffiths, landlord of the Crown and Anchor, Sheerness, for selling adulterated rum, was dismissed. A sample of rum which had been analysed was considerably below the legal limit of strength, but as it was proved that a notice was exhibited in the bar stating that all spirits sold in the house were diluted, the magistrates held that the defendant had done all that the law required him to do.

### IRISH BUTTER PROSECUTION.

At Miltown-Malbay Petty Sessions on August 27th, Sergeant Clinton stated that on July 6th he purchased of Daniel Sexton, Donagan, at the Mullough Butter Market, where he had exposed for sale, a firkin of butter. After the purchase he gave the defendant 1s. and informed him that he would forward a sample for analysis to Sir C. Cameron. The latter certified that it contained 23·1 per cent. of added water; 16 per cent. being the largest amount allowed. Professor Tichbourne's certificate stated the butter contained 23·10 per cent.—Defendant stated he received the certificate (produced) from Professor Tichbourne, Dublin.—Chairman—On the last court day you asked for an adjournment, stating you had sent on your portion of the butter to Professor Tichbourne, and now we have the return. You will be fined 2s 6d. and 5s. costs.

### THE "DAILY CHRONICLE" ON SOMERSET HOUSE.

"We commented recently on what seemed a rather far-fetched prosecution of a milk-vendor for adulteration. The analyst, Mr. Edward Bevan, on whose certificate the action was taken, writes to us to point out that the Somerset House method of analysis, which showed that the milk was only slightly below the standard, is defective. The method, he says, has been discarded for years by all public analysts, and was admitted by Mr. Bannister, of Somerset House, before a Select Committee of the House of Commons, to give erroneous results. This is a very serious matter, and it means, as Mr. Bevan points out, that the standard of quality is lowered throughout the country, "public analysts being forced to pass milks and butters as genuine which they know to be adulterated."—*Daily Chronicle*, September 4th.

### CHOCOLATE POWDER SOLD AS LOOSE COCOA.

#### HEAVY FINE AT WOLVERHAMPTON.

At the Wolverhampton Police-court on August 24th, before the stipendiary (Mr. N. C. A. Neville), Robert Allcott, 136, Anderton-street, Monument-road, Birmingham, and trading at 61, Queen-street, Wolverhampton, as the Colonial Tea Stores, was charged with selling cocoa not of the nature, substance, and

quality required, on Saturday, June 2nd. Mr. Allwood, inspector under the Food and Drugs Act, in opening the case stated that in accordance with his instructions a girl named Emily Cash went to the defendant's shop and asked for a  $\frac{1}{4}$  lb. of loose cocoa, at 6d. per pound, as exhibited in the window. She was supplied by the manager, and it was wrapped in a paper which had printed on it the words,

"6d. PER LB.—A MOST DELICIOUS BREAKFAST COCOA."

There was also pasted on the paper a label a little larger than a postage stamp, which bore the words, "Contains cocoa combined with other ingredients, the perfect purity and wholesomeness of which are guaranteed in accordance with Act of Parliament." The girl did not know there was a label on the paper, neither was she told that the article was chocolate powder. He submitted a sample to the analyst for analysis, and the certificate stated that it contained 34 per cent. of sugar, 36 per cent. of sago, and 30 per cent. of genuine cocoa. For some time before the date on which the purchase was made there was a bowl in the window of defendant's shop containing what appeared to be cocoa, and on it a ticket with the words,

THIS IS OUR LOOSE COCOA,—6D. PER LB.

On going into the shop to make a further purchase of the same article, he was then informed it was not "cocoa," but "chocolate powder."

Mr. Allwood further pointed out that such an article as genuine cocoa was constantly sold in the trade, and he contended that, as regards the label, it did not fulfil the requirements of the Act, inasmuch as it was intended to conceal an inferior quality of article supplied; there was not a sufficient disclosure of the contents of the package. A purchaser ought to be informed of the nature of the goods sold, and he then has an option either of refusing or buying same. As emphasizing this point, he quoted from Cockburn, C.J. in *Sandys v. Small*, where the learned judge is reported as saying, that if a seller professes to sell a certain article, and sold it altered by the admixture of something else, he must be taken to have done so "to the prejudice of the buyer," unless the fact was duly brought to the notice of the purchaser. Other cases were referred to by the inspector, who told the magistrate that, since his visit, the Colonial Tea Stores had changed the label in the bowl of their window and now called the article "chocolate powder."

Emily Cash was called, and gave evidence of the purchase of the article. She did not know at what price pure cocoa could be purchased. Cross-examined by the solicitor for defence, Mr. Jacques (Messrs. Edwin Jacques and Son, Birmingham), the girl stated that the manager, Richard Allis, served her, and did not say the article was chocolate powder.

Richard Allis (manager), called for the defence, said he had been in the defendant's employ about 12 months. When engaged, he was instructed to inform customers that the article was chocolate powder, and he had always carried out that order. The public knew they could not buy pure cocoa at 6d. per lb. They sold pure cocoa, but the lowest price was 1s. 8d. per lb.

Cross-examined: Witness said he had no other label to put in the window than the one bearing the words: "This is our loose cocoa—6d. per lb." Pressed, he said he had never heard the public say at what price they thought pure cocoa could be bought, and when cocoa price lists were quoted to him, said pure cocoa could be sold at less than 1s. 8d. per lb., but they had none.

Mr. Jacques argued that no offence had been committed, and cited cases supporting his contention. The stipendiary said he had no doubt the girl was not told the purchase was chocolate powder. She was not supplied with the article asked for. It was deception to put in a shop window what was labelled "loose cocoa," and to tell customers after purchasing that it was chocolate powder. A fine of £2 and costs (total, £3 8s.) was imposed.

Mr. Jacques: I suppose we have permission to appeal?—The magistrate assented, the fine, etc., being paid without prejudice to such right of appeal.

# CHAMPION'S MUSTARD

MANUFACTURED AND MILLED FROM

## MUSTARD SEED ONLY.

CHAMPION & CO., so far as they are aware, are the only makers of importance who  
**DO NOT MAKE AN ADULTERATED MUSTARD.**

CHAMPION & Co. confine their attention to selling only Genuine Mustard Flour, milled and manufactured from Mustard Seed. They frequently sell 20,000 tins of such Mustard in a day in London alone.

To make CHAMPION'S Mustard, it is essential to use only the finest Mustard Seeds, inasmuch as chillies or ginger cannot be employed to produce pungency, nor can turmeric be utilised to secure high colour; consequently ripe and perfectly-coloured Mustard Seed only can be used.



## EAST SUFFOLK COUNTY COUNCIL AND THE FOOD AND DRUGS ACT.

THE public analyst, Mr. J. Napier, of Ipswich, reported under the Sale of Food and Drugs Act, 1875, that he had analysed during the quarter 80 samples, comprised as follows: Butter, 35; pepper, 16; milk, 11; lard, 5; coffee, 6; baking-powder, 4; spirits, 2. Of these the number adulterated was 13, a percentage of 16.2, while the average over England was 12.4. He wished to draw attention to two samples of butter containing 10 and 12 per cent. foreign fat. These, he believed, were Hamburg butters sent into this country to compete, and therefore to undersell, English-made butter, and he understood that proceedings were not taken. On the other hand, one sample of coffee which he reported as containing only 2½ per cent. chicory was proceeded against, an expensive trial ensued, and now the case was adjourned for the decision of the Government analysts. He suggested that the committee instruct the various officers under the Act as to the amount of adulteration in which action should be taken, so that there may be uniformity—and not have flagrant and intentional adulteration go free in one part of the county, whilst in another a small amount of adulteration, which may not have been there for profit, is proceeded against.—Mr. Cooke considered that more attention should be paid to the analysing of milk, cheese, and butter, instead of so much to pepper. He did not at all grudge the money spent in analysis, because it acted as a deterrent.—Mr. Piske and Alderman Biddell thought the attention of the police should be directed to the cases of butter adulteration mentioned in the report; they failed to see the good of analysis if those guilty of adulteration were not proceeded against.—Eventually the last paragraph of the report was referred to the Standing Joint Committee and the rest of the report adopted.

## PROSECUTIONS IN NOTTINGHAM.

AT the Summons Court, Guildhall, on August 28th, before Mr. T. Hill and Mr. W. L. Hardstaff, David Moore, farmer, of Plumtree, was summoned for selling adulterated milk, on the 22nd ult.—Mr. F. B. Harris (Town Clerk's Office), appeared in support of the summons, and Mr. Clayton defended.—Mr. Harris said the borough analyst had given a certificate to the effect that the milk contained 7 per cent. of added water.—Evidence having been given as to the purchase of the milk, Mr. Clayton quoted a case in which milk taken direct from a cow contained more water than this milk did.—The magistrates said defendant would be fined 20s. or go to prison for fourteen days.

George Draper, hawker, of 4, Drake-street, was summoned for exposing fish for sale which was unfit for human food.—Mr. Harris prosecuted.—Police-constable Hall said on the day in question he saw defendant in Blooms-grove-street, Radford. He had fish. Witness smelt it. He took the man to the police-station, and Inspector Betts examined it. A magistrate was sent for, and it was condemned.—The Chairman said it was one of the worst cases that had ever been brought before the court. Defendant would be fined 40s., or in default go to prison for a month.

William Randall, milkseller, of 318, Mansfield-road, was summoned for selling milk adulterated with 17½ per cent. of added water, on July 22nd.—Mr. Harris prosecuted, and said this was a very bad case. According to the certificate of the public analyst, to whom a sample of the milk had been submitted, the milk contained 17½ per cent. of water—nearly one-fifth of the bulk—so that defendant had been making nearly 18 per cent. in excess of his legitimate profit.—Mr. George Old, inspector of nuisances, stated that on July 22nd he saw the defendant's man in Hucknall-road, Carrington, selling milk. He went to him and purchased a pint and a half of milk, for which he paid 2d. He then told the man he was an inspector of nuisances for the borough of Nottingham, and that he had purchased the milk for purposes of analysis by the public analyst. He divided the sample into three parts, one of which was sent to the public analyst in due course. The report of the analyst was to the effect that the sample submitted to him contained 17½ per cent. of added water.—Defendant said he was ill in bed at the time, and that he had no knowledge of the condition of the milk on July 22nd.—The Chairman said the Bench were determined to make examples of cases of this kind. This was a very bad case, defendant having grossly imposed on the public. He would be fined 40s., in default one month.

William Bexon, 6, Hall-street, Sherwood, was summoned for refusing to sell to Mr. George Old, inspector of nuisances for the borough, a pint and a half of milk for purposes of analysis, on July 22nd. Mr. Harris prosecuted, and said it would be utterly impossible for inspectors to do their duty if all retailers of food acted in the way defendant was alleged to have done. Mr. Old stated that on July 22nd he went to defendant, who was selling milk in a can in Hall-street, Sherwood, and asked to be supplied with a pint and a half of milk, tendering at the same time money in payment of the same. He remarked that he was an inspector of nuisances, and that he wanted the milk for purposes of analysis. Defendant refused to sell him any, saying he should not have enough to supply his ordinary customers with.—Mr. Shacklock, a farmer, came along at the time, and in his presence witness again made application for a pint and a half of milk for purposes of analysis, and was once more refused by defendant.—Mr. Shacklock corroborated.—Defendant said he only had a quart of milk in the can. He had several customers to serve, and it would have been impossible to sell the inspector a pint and a half.—The Chairman said defendant had rendered himself liable to a fine of £10. He would have to pay 20s.

## THE SELECT COMMITTEE ON ADULTERATION.

IX.

### CONTINUATION OF COL. HAYWARD'S EVIDENCE.

(Continued from page 280.)

IT seems to me that when we have got Acts of Parliament it is the duty of the authorities to see that they are carried out. But when the authorities are simply the reflex of the wishes of those who elect them, and if the people who elect them are not sufficiently advanced in their opinions with respect to the evils of adulteration, you cannot expect to have an authority who will enforce the Acts strongly, can you?—But the chief sufferers from that are the people who live in the vicinity, who have no votes in Gloucester; the people living in the vicinity of Gloucester, and who of course make all their purchases in the city of Gloucester, have no votes for the Corporation. You think that that accounts for a considerable amount of apathy?—I think it does.—But then the people in the town suffer, do they not?—They do, but they do not suffer as producers, but as consumers, whereas we outside suffer both as producers and consumers.—You suffer from the unfair competition of the adulterated article?—Exactly so.

Mr. Channing: I believe you are a county councillor for Gloucestershire?—Yes.—And a member of the Council of the Royal Agricultural Society?—I am.—And a member of the Council of the British Dairy Farmers' Association?—Yes.—And I suppose you are acquainted and sympathise with the views which have been expressed by the two latter bodies, and also know of any action taken by the County Council?—Yes.—Has any action been taken by the County Council to increase the usefulness of these Acts; has that been brought under their notice?—I brought it under their notice after taking these samples in Gloucester, and before we took them in Cheltenham. The chief constable was authorised to procure outside assistance in taking samples; for instance, he might employ women if he liked; he was authorised to do so by the police committee of the County Council.—Did he do so to any extent; have you particulars of what has been done?—I do not think that much has been done.—Where would these samples be taken; in what parts of the town?—They were taken all over the county.—In the smaller towns and villages?—Yes, and also in Cheltenham; it would include Cheltenham.—You spoke of samples being taken from 94 shops; can you tell me what is the number of shops at which butter or butter substitutes are sold in Gloucester?—No, I cannot tell you, but I should think we took them from very nearly all.—Practically your intention was to take samples from all the shops that were worth counting?—Yes, particularly the smaller shops.—And the result was that in about 18 per cent. you found serious adulteration?—Yes.—Did the analyst in his report or certificate make any remarks as to the character of the adulteration with foreign fats?—No; he said that they were foreign fats and that none of the samples that he reported as adulterated contained less than 20 per cent., and some of them as much as 50 per cent., or more, of foreign fats.—There is no special report as to the particular way that the adulteration was carried out?—No, I do not think so.—Further than the presence of fat?—No further than the presence of fat.—I understand that since you suspended operations the Corporation has taken practically no action at all in the matter?—No.—You have not heard of any cases?—I have heard of no cases, and I believe that I am right in saying that no samples of butter have been taken since that date.—I suppose your contention is that the State having passed the Act in the public interest to check these frauds, it is the duty of the State, or of the local authority rather than of private individuals, in the first instance to use the machinery of the law to check these frauds?—Certainly.—You do not think that the whole cost of the machinery of carrying out these Acts ought to fall on individuals who are specially interested?—No.—Although of course you believe that they ought to look after their interests within reasonable limits?—Yes.—You are acquainted, I suppose, with the suggestions which have obtained the assent of the Central Chambers of Agriculture?—Yes.—I have them here.—And one of those is the appointment of Government travelling inspectors, is it not?—Yes.—I suppose that one of your objects in giving

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## THE SANITAS COMPANY, LIMITED

(C. T. KINGZETT, F.I.C., F.C.S., Managing Director)

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evidence here to-day is to bring forward a typical instance which shows the necessity of a Government travelling inspector to be sent down to correct the inaction of the local authorities?—Yes; and also to follow the matter up, because it is no use for a man who is adulterating some article to be prosecuted once, and then left alone for ever; you want to be going on worrying him until you make him give up the sale of adulterated articles.—And besides that, is it not the case that the sale of adulterated butters is to a great extent organised, and has ramifications all over the country, which a central inspector would be able to track out, and so bring the law to bear on the same set of operations in different centres in a way that a local inspector could not do?—Yes, there are many men who have shops in three or four different towns.—Are there any shops in Gloucester or in Cheltenham which openly advertise margarine?—Yes, I have seen "Margarine" put up in one or two shops.—Perhaps you will describe what you have seen?—I have seen a green label, "Margarine."—But not a large notice on the front of the shop?—No, I have seen in the shop window a quantity of butter put "guaranteed pure," etc., and then a little piece at the side with a small thing, "Margarine."—I ask you that question because there is a question of that kind in Northampton, where they openly advertise margarine, the whole stock I believe is margarine, and it is exposed under that description; that you would not object to, I take it?—No, I do not object to the sale of margarine in the least if it is sold as such.—What is your opinion about the use of colouring matter in margarine?—I think if it was illegal to colour margarine, it would be a great safeguard against it being sold as butter.—The colouring matter, I suppose, is not unhealthy; you do not contend that it is unhealthy?—Not in the least.—Would you prohibit the colouring of butter also?—If you could prohibit the colouring of foreign butter as well, I would prohibit it, but it would never do to prohibit the colouring of butter in England and allow foreign butter to come in coloured, because the English public will have coloured butter; they like a high colour, and it is no use telling people that they are the same articles, only that one is coloured and the other is not; the people say that they like the yellow milk or butter because it looks so much richer.—You think that the prohibition of colouring margarine would have a considerable effect in checking these frauds?—I think it would. Have you seen the suggestion that has been made by a good many grocers' associations, that the same object could be obtained by selling margarine in blocks of a certain shape and weight?—No.—But you are of opinion that any precaution with regard to colouring or any other form of deception, should be applied with equal force and stringency to foreign imports?—Yes.—Mr. Jeffreys: I gather from what you have said that what you think is most necessary is that some official shall be appointed to go and take these samples, and commence prosecutions against the people who adulterate the samples?—Yes.—And you say that in Gloucester and Cheltenham the municipal authorities do not take that action?—In Gloucester they do not. In Cheltenham they are under the County Council.—But then the County Council seem to be just as bad as the municipality, do they not?—Not quite, I think.—I think you will see on receiving the report of the public analyst that in Gloucester, where the Acts have never been carried out, the percentage was larger, and also that when they began to take samples for prosecutions, they got fewer convictions than they did in Cheltenham, where they had a smaller number of cases found by our association to be adulterated, but out of those a large number were brought to book.—Then in Gloucester, I think you said there was a certain unpopularity attaching to enforcing the Acts; is it the case that a large number of the town council are shopkeepers themselves?—Yes, they belong to all classes; there are some shopkeepers and some merchants.—Were they against it because they were shopkeepers, or what was their object?—If you ask them individually, they are all very keen to do it. I have brought it before them individually, and they have all said, "We will see about it at the next council meeting;" but nothing is ever done.—You think that if colouring matter were forbidden to margarine that would be one of the greatest safeguards against adulteration.—Yes.—Colonel Bagot: Can you tell us what is the colour of margarine in its natural state?—It would be white.—Like lard?—Yes.—Mr. Jeffreys: I suppose that you are aware that already in Holland there is an Act of Parliament which prevents the colouring of margarine?—I believe there is.—And you think that a similar Act might be passed here?—Yes.—Colonel Bagot: Have you ever heard it suggested that margarine should be coloured in some totally different manner, so as not to appear like butter at all?—Yes; but I doubt whether the public would be prepared for such a thing as that; I have never advocated that, because I do not think it is possible. I remember that there was a gentleman who advocated that it should be coloured pink, but if you did that it would be almost tantamount to forbidding the sale of it.—Mr. Jeffreys: In fact, your committee did not go so far as to recommend the colouring of it in any particular way; they merely recommended that there should be no colourisation at all?—Yes.—Your committee recommended, I understand from an answer that you gave to Mr. Channing, that some officer should be appointed to travel about the country?—The Committee of the Associated Chambers of Agriculture, who met in consultation with the British Dairy Farmers' Joint Committee, have made 12 recommendations, and one of them is that there should be travelling inspectors; the first one is that there should be no colouring matter.—Mr. Colman: As regards the samples of butter which

you say were adulterated, have you any knowledge whether they were made in your own neighbourhood or whether they were foreign butters?—I cannot tell at all.—Is there much foreign butter sold in Gloucestershire?—A great deal in the city of Gloucester.—Can you give no idea whether they were foreign butters or butter made in your own county?—I could not at all; I should say that a great deal of it was foreign butter.—On the question of the inspectors and the suggestion of having women as inspectors, or women to get the samples rather, I suppose it is not considered at the present moment that the authorities have power to employ women?—No, not for the purpose of prosecution, for taking proceedings.—But surely as a private purchaser any woman can have a sample examined under Clause 12 of the Act. "Any purchaser of an article of food or drug in any place," and so on. They may not be employed as inspectors, but as private purchasers they can get samples and have them examined, can they not?—But what would be the use of that; you would know that you had received an adulterated article, but you would not be able to prosecute the person.—That is what I want to get at; your suggestion is that the inspector to prosecute should be a woman, or might be at least?—No, I suggest that your inspector should be able to employ whatever agent he considers most suitable to procure the article that he wants.—Then in Clause 13, which refers to medical officers of health and inspectors, and so on, which says, "if he suspects the same," if that were altered into, "if he or she suspects the same," you think that would permit of the appointment of female inspectors?—I would rather have this clause, as recommended in this paper, that officers authorised to take samples under Section 10 of the Margarine Act should be empowered to appoint in writing deputies to take samples in their behalf. If that was done I think it would meet the case, that they would be able to depute their power.—Might it not be a little clearer if it were put "Inspector, male or female"?—This, I take it, would allow the persons to depute their powers to a male or female.—If this remain, that "he" shall do so-and-so, that implies that it is not to be a woman?—The meaning of this suggested alteration, that they should be empowered to appoint in writing deputies to take samples on their behalf, must mean deputies male or female.—I suggest that if you are going to have that it should be "male or female." You referred to the question of a first conviction, to be followed up by a second prosecution; do you know whether, as a matter of fact, those second prosecutions have or have not taken place?—They have taken place, I believe, against one shop in Gloucester. I believe that the Danish Commissioners came down to Gloucester, hearing that butter sold at a shop that was trading under the name of a Danish company, was largely adulterated, and I believe he got a conviction against a man there, and that he was one of the persons who was convicted under the report that we sent in to the public analyst; I believe that is the only case where a second conviction has occurred in our neighbourhood.—You imply rather, then, that as a rule there are not second convictions?—Yes.—You told us that margarine is sold in Gloucester, I think; is it sold to any large extent, can you tell us?—I imagine to a very large extent.—Then on the question of colouring margarine, you think that it should not be coloured at all?—I think that it would be a great check to its being sold as butter if it was not coloured.—You said, as I understood, that the people in your district practically would not take butter that is not of a fairly high colour?—There is no doubt that butter that has a colour to it sells better than a white butter, and in the winter, particularly in the very cold weather, when you are obliged to feed the cows on roots, it is almost impossible to get the colour which the public like, you know, without putting some colouring matter in, but it is only necessary perhaps for two months in the year.—But as a matter of fact it is done, I suppose, almost universally?—Yes.—I think we were told by a previous witness that no uncoloured butter is sold in England. Would you go so far as that?—No, I would not.—In some districts they do not object to butter, I suppose, of a very pale colour?—No doubt some people would not, but taking it as a rule, if you were to take round in a basket from door to door butter, with some of it uncoloured and some coloured, you would sell your coloured butter, and would come back with your uncoloured butter, unless you happened to sell it all; but the coloured butter would go first.—Supposing there to be districts where butter is sold which is very little coloured, so as to be almost uncoloured, would not margarine interfere in those districts if it also were uncoloured, from the two being so much alike?—No, I do not think you would ever get it. Butter would never be the same colour as margarine, unless it was coloured. My impression is that there would be a distinct difference in the look of it, even if the butter was uncoloured.—You do not go so far as to suggest any colour for margarine, but simply that it should not be coloured?—If you colour it other than as butter, I think you would create an unjust prejudice against it. We do not wish to prevent the sale of margarine at all; we only wish to prevent it being sold as butter.—Mr. Kearley:—You say that you do not wish to prevent the sale of margarine when it is sold as margarine?—No.—But you do not wish it to be sold as butter?—No.—In the whole of these samples that you have had taken, did you find any one of them to be margarine pure and simple?—I think that that would be almost a question for the analyst.—Have you not the figures?—No; I have not got the figures.—I thought I understood you to say that the adulteration varied from 20 to 50 per cent.?—Yes. I can only give you the general report of the analyst.—But in a general way, might we take it that the



maximum of margarine in those butter samples was 50 per cent.; there might be one single exception of course?—There might be. That I could hardly tell you, except that they were all largely adulterated, some of them over 50 per cent., and none under 20 per cent. We did not take any cognisance of anything under that.—What is the outcome of this investigation on your part. I suggest it is more a question of mixing margarine with butter than of margarine being sold as pure butter?—Yes, I should think it was.—It is a question of adulterating butter with some matter that is not butter?—Yes, I should think it was.—Now, you are strongly of opinion, I take it, that the non-colourisation of margarine would materially bring about the results which you desire?—I think it would.—But at the same time you do not think that the consumer, the purchaser, would tolerate the non-colourisation of butter?—I think it would be quite possible to educate the public to take butter that is not coloured.—But it would be more than a question of education; it would be an enactment that would have to come into force, supposing it were passed by Parliament?—I do not think that there would be any difficulty at all about a general law that butter should not be coloured, provided, as I have said before, that you do not allow foreign butter in that is coloured. If you allow foreign butter in that is coloured, that would give it an unfair advantage against our own butter; but if all butter that comes into this country were all coloured there would be no difficulty at all.—But assuming that it were not possible to enforce this law on foreign producers, you would not advocate the non-colourisation of English butter?—No, because you would place it at a distinct disadvantage as regards foreign butter.—Then, so far as those samples go, I think from what you said the evidence led you to suppose that they were mainly foreign butters, so called?—I could not say that.—There is a great quantity of foreign butter sold in Gloucester and Cheltenham, I understand?—Yes, a great deal.—Supposing that a law were passed making it illegal to colour margarine, and supposing that an adulteration to the tune of 25 or 50 per cent. still went on (the admixture of margarine with butter), and that butter remained coloured, where would you be then. If the 75 per cent. of butter were coloured, and the 25 per cent. of admixture were white, the result of the whole bulk would not be white: it would still be coloured?—Then you would not have to allow the admixture of butter with margarine.—That is the point which I want to come to. Do you think that it would be advantageous to make it illegal to mix butter with margarine?—Yes; I do.—Are you aware that the margarine manufacturers sell what they call mixtures, which are avowedly a mixture of margarine with butter?—Yes.—But you think that it would be advantageous to make it illegal for butter to be mixed with margarine?—I do.—That would, of course, prevent the admixture taking place by the margarine manufacturer in the first place, and it would make it an illegal offence for the vendor to mix margarine and butter in his own shop?—Yes.—Can you tell me who analysed those samples for you?—Mr. Embrey, the public analyst of Gloucestershire.—Did he make any comments upon the percentage of water contained in those samples. Did he look for any adulterant besides margarine?—I have not his report before me, and I cannot tell you. He is going to give evidence on that question and he will be able to answer you. At the same time that your association was looking out for adulteration of this description of foreign fat, was it looking out for adulteration by excess of water, say?—Yes, certainly, any adulteration. We took those samples and submitted them to the public analyst, in point of fact to give us a test of what they were, as to whether they were proper samples of butter.—The point that I want to put to you is whether your association, which was formed deliberately to check adulteration, had cognisance of the fact that there could be an adulteration in butter other than by means of foreign fats, for instance, by the addition of an excess percentage of water; were you, as an association, aware of that?—Yes, we were; but I do not think we were on the look out for more than foreign fats.—I assume that to be so, and then in taking your sample you went to work in the way which you thought would disarm the suspicion of the vendor?—Yes.—By having the purchase made by women?—Yes.—And children?—I do not think we employed children, though a child might be a suitable agent.—And you did that, I assume, because you were under the impression that corporations and county councils habitually employed their own employés, who would be men, to make purchases?—Yes.—That is within your knowledge, is it, that these corporations do employ men chiefly to purchase samples?—Yes; I know that the police employ men generally, constables in plain clothes, very likely; but still a man going into any place to buy butter is an object of suspicion, because it is not a thing that a man buys as a rule.—I think there must be a good many men that do buy butter, that go in a garb not quite of the exciting nature of that of a policeman-stable in plain clothes; an agricultural labourer going in to buy butter would not excite attention?—A policeman even in plain clothes is mistakable.—You found that Cheltenham was a little purer in regard to the quantity of adulteration than Gloucester?—Yes; we did not go so fully into Cheltenham, but its percentage was not so large.—But you attach a great deal of importance to the skill displayed in taking these samples?—Yes.—Were the gentlemen who were responsible for the starting of this association connected with dairy produce farmers, and so on, and landowners?—Yes, landowners chiefly.

(To be continued.)

## BOOKS WORTH BUYING.

### NATURE'S HYGIENE.

By C. T. KINGZETT, F.I.C., F.C.S.

(Published by Ballière, Tindall, and Co.) Price 10s.

(Continued from page 272.)

DEALING with cholera, which has already made its appearance on the Continent, Mr. Kingzett states "That these terrible diseases, cholera and typhoid fever, are much propagated by waters diluted with excremental matter there cannot be a shadow of doubt, the evidence on the subject being so extensive and so conclusive." We thus see the danger of drinking water in any way contaminated with sewage—although a small amount of excreta from a healthy person would not necessarily make the water dangerous. To prove this, Dr. Emmerich, at Munich, drank daily for two weeks, from a half-litre to a litre of very filthy water, in fact, nothing less than sewage, without any ill-effect. Moreover, he even claims that it improved a slight gastric catarrh from which he was suffering at the time. What will not the scientific enthusiast do to arrive at truth? As regards the purification of water for domestic purposes, Mr. Kingzett is at one with Mr. William Thompson, F.R.S.E., of Manchester, Dr. Percy Frankland, and the bulk of sanitarians, in condemning the ordinary domestic filters in which the filtering medium is prepared charcoal, silicated carbon, spongy iron, and other agents which are not known to be destructive of toxic products, and, considering their insolubility, it is almost impossible they can act as germicides. The offensive matter they abstract from the water accumulates in the filter, and chokes it, and unless this offensive matter be removed from time to time these filters actually make the water more impure. Mr. Kingzett's experience accords with that of the bulk of investigators, that the Chamberland-Pasteur filter—in which the filtering medium consists of biscuit porcelain, the water being made to filter through a candle or bougie of that substance, the delivery being from within the said candle—undoubtedly sterilises, by mechanical removal, the micro-organisms which may be present; but the great objection to the Chamberland filter is that the amount of water passing through it within a given time is very limited, even when pressure is employed. The Berkefeld filter, constructed on the same principle, of which the filtering medium is of different composition, being principally the *kieselguhr* (fossil earth), composed of the siliceous skeletons of *diatomaceæ*, surmounts this objection of slow filtration. The *diatomaceæ* skeletons are ladder-like and interlacing and furnish an enormous number of very minute apertures or spaces, thus affording a free passage for the flow of liquid through them, while, at the same time, the passage of all solid particles, and even micro-organisms, bacteria, etc., is arrested. The impurities which are thus removed from water in course of filtration through candles of this *kieselguhr* collect on the outside surface and can readily be removed from time to time by brushing. Should the candles, however, foul within the minute aperture and require to be sterilised, this can readily be done by placing them in warm water and boiling them an hour or so. Dr. Percy Frankland, Mr. William Thompson, and many other authorities have satisfactorily established the fact that the Berkefeld filter really sterilises water by the removal therefrom of microbic life. The use of the Berkefeld filter, therefore, by the public at large would, beyond question, go far towards securing immunity from diseases which are spread through impure water, and such as cholera and typhoid fever, and its adoption by villages where the water supply is from *subsoil* wells is particularly to be recommended, the more so as it is made in a pump form to specially meet such requirements.

In a very valuable chapter on sewage, Mr. Kingzett makes a number of excellent suggestions, agreeing with Mr. Bevan that it our boasted scientific knowledge is worth anything it should enable the authorities to convert the useful parts of sewage into a good practical manure. Playfair is said to have found in a sample of faeces which he examined as much as 15 per cent. of nitrogen and 45 per cent. of carbon. Mr. Kingzett thinks this must have been calculated upon dried faeces of abnormal composition, but quite apart from these figures he does not hesitate to express a strong conviction that even the solid parts of sewage are not so valueless as they are often assumed to be, as he does not believe that the value of manure is so nearly limited to phosphoric acid, potash, and available nitrogen as is generally represented. A curious fact noted by Mr. Kingzett is that no paper is ever seen in the sewage of London at the outfalls, as it becomes reduced to an impalpable stage of division *en route* and is deposited in a sparingly pervious layer on the surfaces of filter beds and sewage fields. With regard to Sir John Lawes' suggestion, made a few years ago, that it might prove more profitable to cast the sewage of London into the sea than to apply it to land, on the ground that enormous quantities of fish are removed from the sea near our shores and they contain great quantities of phosphate of lime, potash, and nitrogen. The former of these ingredients exists in sea water in a very small amount, yet it is as essential to fish as an article of food is to mammalia. By discharging the sewage into the sea we should then atone for the food material which is being constantly removed, and Sir John Lawes thinks that in this way continued and increased prosperity would be secured to our fisheries. But in considering this matter scientifically, Mr. Kingzett points out that this disposal of sewage would have its



attendant evils. First, "the finely diffused solid particles of sewage are exceptionally hurtful to fish, choking their gills and suffocating them. Moreover, fish breathe by means of the free oxygen which is contained in the water in which they natate, whereas, not only does sewage contain no such oxygen, but it deprives the water in which it is discharged of its oxygen also. This fact, alone, would necessarily limit the amount of sewage that could be poured into any circumscribed area of sea-water. Thirdly, whilst fresh sewage is very good for fish, bad or stale sewage is poisonous to them. Whatever there might be said of the advantages of Sir John Lawes' suggested plan for dealing with sewage, in Mr. Kingzett's opinion its execution would probably diminish the fish supply in the immediate neighbourhood, however it might, in a wider area, increase the available supply."

He agrees very largely with Mr. Bevan with regard to converting the useful parts of sewage into a good practical manure, in which a brisk trade could be done, but goes further, and is of opinion that, "notwithstanding all past discouraging experiences, a reasonable sum of money expended on the spot in experimental work would enable chemists to make very valuable commodities from sewage, in addition to manure." There are few scientists better qualified than Mr. Kingzett to give opinions of weighty importance as to what can be done in building up new industries and discovering new commodities of immense public value. Mr. Kingzett's researches into the chemistry and hygiene of eucalyptus, pine and camphor forests, and into the scientific methods of disinfection, led to his inventing the many excellent and reliable "Sanitas" preparations now in such universal use.

It is, however, when Mr. Kingzett approaches epidemic diseases, experiments upon bacteria, and the chemical explanation of disease, the poisons produced by bacteria, and how infection originates, that the great scientific importance of his studies in these questions is forced overwhelmingly upon the reader. Of one disease—typhoid fever—alone it is on record, says Dr. Drysdale, that 100,000 cases occur annually, and of these about 15 to 20 per cent. prove fatal. Considering the enormous monetary loss suffered by the public through preventable sickness, respecting which Dr. Drysdale says, "when we consider the almost total impotence of medicine for direct cure, it is indeed a question more for statesmen and governing bodies than for physicians." In dealing with the germ theory of disease, which attributes to the action of micro-organisms the contagious diseases to which man is liable, Mr. Kingzett states that the ubiquity of germs is to a certain extent a very telling argument against this theory, when applied in its widest sense, and it may be safely said that its upholders in their zealous search for germs, and hoping to find them associated with infective inflammations and contagious fevers only have, indeed, found them pretty well everywhere, much to their discomfiture. If it be true that germ life is *per se*, *contagium vivum*, then it can no longer surprise us that infectious disease is of common occurrence. On the other hand, it devolves upon the germ theorists to explain the escape of any one person from such an all-pervading *contagium*. "In spite of all that has been said and written on the side of the germ theory, its very advocates cannot but admit that so far as smallpox and most of the principal contagious fevers are concerned, their connection with pathogenic organisms is as yet a matter of pure inference," says Dr. Roberts. Mr. Kingzett declares that "it is scarcely a matter of inference, it is one of pure hypothesis, as it must be obvious to all that if the true contagious fevers are attributable to specific germs, then smallpox, scarlatina, and typhus should originate spontaneously, instead of which they seem to be entirely dependent upon previous cases." He instances the fact that Dr. T. R. Lewis, of the Army Medical Department, found that the comma-shaped bacillus, identical in size, form, and reaction with dyes with that described by Koch as the specific cause of cholera, is present in the secretions of the mouth and fauces of perfectly healthy persons, and that Klein does not believe in Koch's cholera bacillus, he being stated to have swallowed the bacillus and to have experienced no ill-result.

After an interesting examination of Pasteur's experiments, which showed that if the most minute drop of blood be taken from a fowl about to die from chicken cholera, and placed in some clear *bouillon-de-pouls* previously sterilised and kept under certain conditions the inoculated liquid grows turbid and full of tiny micro-organisms. From this cultivated solution, successive solutions can be inoculated to the one hundredth or one thousandth generation, and if from the last of the series the most minute portion be inoculated in the skin of a previously healthy fowl, the bird will die, as surely as though it had been inoculated with the blood taken direct from the fowl which furnished the original source of the poison, and with the same symptoms. On the other hand, if a considerable interval of time, say a fortnight, a month, two months, or three months, be observed between the artificial cultivation of the virus, then the virulence of each succeeding product is lessened, notwithstanding the abounding presence of the tiny micro-organisms, until a product is obtained which, when inoculated into a healthy fowl, will make it ill, but will not kill it. When the fowls have been rendered sufficiently ill by the attenuated virus, which the vital resistance has arrested in its development, they will, when inoculated with virulent virus, suffer no evil effects, or only effects of a passing character. Here, Pasteur says, we evidently touch the principle of vaccination, and he endeavours to show that it is by the agency of atmospheric oxygen that the attenuation of the virus is brought

about, for in the absence of oxygen the virulence of successfully cultivated solutions is not appreciably impaired. Others have since shown that a similar attenuation can be brought about much more quickly by mixing the virus with peroxide of hydrogen. "What then," asks Mr. Kingzett, "is the action of the oxygen? Can it be supposed to alter the very function of the germs themselves, or does it oxidise some virulent chemical secretion or poison which the germs immediately elaborate or produce? Unless there be an actual process of evolution by which the germ of chicken cholera is morphologically converted into an innocuous form by the agency of oxygen—a supposition which meets with little favour from the highest authorities, the attenuation, it seems to me, must be brought about by a chemical change between oxygen and the real poison, which, in that case, must be regarded as a chemical substance resulting from the live function of the germ, just as pepsine is elaborated in the process of putrefaction."

Mr. Kingzett supports this view by pointing out the fact that there is no fundamental distinction between the effects of well-known chemical poisons, such as prussic acid, chlorodyne, arsenic, strychnine, and the symptoms of diseases of the class of chicken cholera, except perhaps the greater intensity of the poisons that are associated with micro-organic life. It is these considerations which lead Mr. Kingzett to state that after bacteriological research has made still more apparent the fact that micro-organisms are connected with the production of disease—as he has always contended—only by reason of the chemical products to which they give rise under certain specific conditions, and to state that he has always thought and taught that the germ theory of disease is an entirely erroneous one, and "if we are to believe in the existence of disease initiated by germs—and I fail to see how it can be doubted—we must at least seek for the real poisons that cause death in the secretions of the parasites, or in the chemical products to which they can give rise in suitable media. It is easy to understand how oxygen and other chemical substances and conditions may change purely chemical products, but such changes cannot be conceived as occurring in the parasites themselves.

Want of space compels us to refrain from quoting the many able reasons given by Mr. Kingzett in support of his belief, which reasons go to show that it is not impossible that the comma-shaped bacillus discovered by Dr. Lewis in the mouths even of healthy persons is identical with that to which Koch attributes cholera, inasmuch as "if it be conceded that micro-organisms cause disease in man only by the poisonous action of their secretions, or the chemical products derived directly or indirectly from their life actions, then, since these products may vary enormously with the nature of the media in which they are produced and other circumstances, we may expect to find different diseases or modifications of the same disease induced by one and the same micro-organism, acting under different conditions," which, as Mr. Kingzett demonstrates, is actually the case. It follows, therefore, that the presence of a particular micro-organism in the body does not necessarily imply the presence of a specific disease, inasmuch as the disease can only arise when the conditions concerning the life of the micro-organism of a definite character are adapted to the production of poisonous products by its chemical action or by its secretion.

The Graft theory of disease, the phenomena of infective processes, the distribution of disease, bacteriological research, Koch's work on tuberculosis, the relations of bacteria and disease, the doctrine of phagocytosis, of immunity from disease, the general properties of albumenoses, the poisons produced by bacteria, the chemistry of fermentations, micro-organisms in soil, disinfectants and disinfection, how infection originates, disinfection of the living body and the antiseptic values of various substances, with a series of comparative experiments, form other portions of Mr. Kingzett's work. There is an able chapter on the treatment of the sick, with notes on the chief infectious diseases and the methods of disinfections to be observed in each. Foods, their preservation, etc., and characteristics are dealt with, and a vast number of experiments and analyses of eucalyptus oil, with its history, its use in medicine, the yields of essential oils and their composition, and a number of experiments with the various "Sanitas" preparations are all ably treated by Mr. Kingzett. A series of experiments made by Dr. A. B. Griffiths to determine the disinfecting and germicidal power of the "Sanitas" preparations and appliances are given in detail, and prove that the preparations embody the healthful principles which are generated naturally by pine and eucalyptus forests; that their individual constituents are all possessed of antiseptic or oxidising properties; that their collective constituents have well-marked characters as chemical antiseptics, thereby inhibiting the processes which bacteria are otherwise capable of initiating, and moreover that the "Sanitas" preparations are powerful germicides and therefore act destructively on organisms generally. It is by no means Mr. Kingzett's least service to sanitation that his researches have placed at the service of those who fight the good fight against disease, or the less educated and too often unthinking public who, by absence of sanitary safeguards, are menaced with disease or death, the pleasant-odoured and refreshing Sanitas disinfectants—preparations as grateful to the olfactory organs as they are deadly to disease-producing organisms and efficacious in rendering harmless their poisonous products.

The book has an excellent index, and is one which should be in the hands of every person concerned with sanitary work.



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# Food and Sanitation.

SATURDAY, SEPTEMBER 15TH, 1894.

## THE MERCHANDISE MARKS ACT.

WE do not like the Jesuits' alleged motto, "The end justifies the means;" but to those who have cavilled at our strictures upon the discredited Italian-English political hack who clung like a leech to his office at the Board of Trade with its £2,000 per year until outraged public opinion proclaimed his tenure of it a scandal, we would say the end more than justified the means we adopted to place in its true light before the public what is the cause why the Board of Trade is an arrant imposture upon the trading community. We do not say that the thrusting out of office of the company-mongering late president has either purged the Board or roused it into full and useful activity, because we recognise fully that the present president is very little of an improvement upon his predecessor. He knows something of Roman Law, and something of literature, but he knows as little about English trade and its wants as a pig does of the method of dancing a sailor's hornpipe. It is, however, unhappily the fashion to put the most useless

political humbugs into offices for which they do not possess an atom of fitness, and the education of the public to the common-sense view of protesting against such folly is so slow a process that the present system has yet a long lease of life before it. Neither the carelessness of the public, nor the incapacity or venality of political hacks should, however, cause those who know the rottenness of the existing system and how it curses England and paralyses our trade to abate their efforts to secure intelligent reform, and convert the Board of Trade into a really useful public department; for, although the progress is exasperatingly slow, it is perceptible. Two years ago, when we opened fire on the idle department, the Merchandise Marks Act was a dead letter. The result of our efforts has been that last year saw a sudden activity, and that the number of falsely marked goods detained at the port of entry rose from 3,880 to 4,899—being an increase of 1,019. This is not much, it is true, but it is a moving onward, and the lesson traders have to learn from it is that the measure of the activity of Professor James Bryce, Sir Courtenay Boyle, and the rest of the portentous humbugs who hocus traders and are responsible for the Board's halting policy with railway rates, Merchandise Marks Acts, and the host of other grievances they bungle or "burke," will be in exact ratio to the strength of the onslaught the traders make upon these lazy overpaid officials, and the force with which the public kicks are administered. If the Board of Trade can be compelled to bring a heavy hand down upon the railways and force them to give preferential, or even equal, rates to English and Irish producers, instead of making the English trader pay for the loss their preferential rates to the foreigner entails; if they can open up the canals that railway monopolists have acquired and carefully arranged should fall into desuetude—if, in fact, they can make the Board of Trade what it has never yet been—the protector of England's trade—no matter what may be the means employed, the end will justify them. But with a House of Commons crammed with railway shareholders and lawyers, with hands as open for fees as their tongues are oiled for lying, traders have a hard battle before them.



## ADULTERATION IN NEATH.

AT Neath Borough Police-court on September 7th, John Lewis, milk vendor, Melnyerythan, was fined 10s. and costs for selling adulterated milk.—Thomas Williams, grocer, Pantyrheol, charged with selling adulterated lard, was fined 10s. and costs.

## ADULTERATED VINEGAR AT ILKESTON.

DAVID SISSON was summoned by Captain Sandys, inspector under the Food and Drugs Act, for selling a pint of malt vinegar adulterated with 20 per cent. of water, and at least 50 per cent. of the acetic acid not being derived from malt or grain.—Captain Sandys said that a difficulty arose as to the persons supplying the vinegar, as defendant had put the vinegar with some other in another barrel. He always advised these people to get their vinegar from one place, and then in case of adulteration they would have proof of default.—Fined 10s. and £1 1s. costs.

## CORK, AND EXCESS WATER IN BUTTER.

MR. DENIS M'CARTHY MAHONY, butter merchant, was prosecuted at Cork on September 8th, for sending on June 5th to the Cork Butter Market a firkin of butter containing an excessive quantity of water. It was stated to be the first prosecution of the kind in the city in which a butter merchant was made the defendant, and that Mr. Mahony was proceeded against as he failed to disclose the name of the manufacturer of the butter. The magistrates dismissed the case, as they believed that Mr. Mahony neither bought nor offered the butter to the market for sale or inspection.

## ANOTHER RAPID BUTTER TEST.

OUR able contemporary *The Grocer's Review*, gives the following from a transatlantic contemporary.

"A test that will always distinguish genuine butter from its counterfeits is as follows:—Take a spoonful or two of the sample, put it in a narrow cup and quickly heat to the boiling point. If it is true butter it will boil quietly and foam up in a mass of fine bubbles, often overflowing the side of the cup. If it is butterine, or oleo-margarine, the sample when heated will foam up but little, but will crackle and sputter as it boils. After one or two trials anyone can decide with certainty what the sample offered consists of. No fraud can escape this test."

Perhaps some of our readers have tried it and would report their experience of its value.

## SUPPRESSING ADULTERATION IN MONMOUTH.

AT Newcastle John R. Fudge, landlord of the Angel Inn, Grosmont, was charged with adulterating whiskey on July 27th. Mr. Lewis, inspector under the Food and Drugs Act for the Monmouthshire County Council, prosecuted, and stated that he visited defendant's house on July 27th, procured a sample of whiskey, divided it into three parts, and gave notice that the sample was for analysis, which notice was accepted. He left one sample with the defendant, and submitted one to the county analyst, who reported that the sample contained water, and extracted matter to the amount of 73.40 per cent, which made the sample 43½ degrees under proof. There was no notice in defendant's house as to the spirits being diluted. Defendant admitted the offence, but said it was not done wilfully, as he mixed the water with the spirits in accordance with the instructions of his wine merchant, and put rather less water than ordered. He put three quarts to a gallon, instead of "half and half." Mr. Jackson said the whiskey was weak at this house two years ago. Defendant was fined £3 and 15s. costs, and the chairman remarked that if it occurred again the licence would be endorsed.

## PROSECUTIONS SET TO MUSIC.

MR. B. SCOTT-ELDER has a high reputation amongst Weights and Measures and Food and Drugs Act inspectors, as an official who thoroughly understands his business. Times over he has squelched cocksure solicitors whose knowledge of adulteration law has been in inverse ratio to their assurance, and in Durham his name is anathema to short weight and measure or margarine as butter gentry. He has laid in wait for so many elastic-conscience traders, and caused magisterial persuasions to return to the path of rectitude to be administered so frequently, that we suppose it would be natural for him to even say to the stearined lard vendor, for instance, "I wait for thee." This may or may not explain Mr. Scott-Elder's last evidence of versatility which is published by Weekes and Company, 14, Hanover-street, Regent-street, London, W. In this he has shown himself an accomplished musical composer by writing a dainty air to Frances R. Havergal's song "I wait for thee," and scoring it as a four-part song. The music is charming and the scoring very ably done, indeed, it is so delightful that efficiently performed it would go far to woo back to sweet content even the hardened sinners whose turpitude often receives Mr. Scott-Elder's attention, and make them cease to lament the fine and costs that usually follow his waiting for them. This song is to be had from the publishers, price 3d., and now that we have told our readers where they may obtain it, theirs will be the loss if they fail to do so.

## AUSTRALIAN WINES.

OUR Colonial kin have an ardent desire to secure a better market in England for their supplies. It is well, therefore, to know that at last active steps are being taken to offer the public drinkable wines in place of the questionable fluids that have hitherto been on the English market under various high-sounding names as wines from Australia. No amount even of costly advertising has availed in inducing the public to swallow these wines. This is, however, not surprising. A firm of wine merchants who in their day may possibly have been as keen hunters after press-puffs as some of the Australian wine importers are to-day, once sent, so the story runs, some of their alleged choice sherry to Douglas Jerrold as a present, hoping for a paragraph in *Punch* or at the least an acknowledgment, which they could utilise as showing that the famous wit and connoisseur liked their wines. The sherry was sent with the compliments of the merchants, whose names, if we remember aright, were Hedges and Butler. The chagrin of the donors when they received Douglas Jerrold's reply may well be imagined. The caustic wit wrote thanking them for the sherry, of which he said, "I have tasted it, and beg to inform you that I find it smack more of the hedges than the butler."

The Australian vintages offered to the English public have hitherto been such as would come well within Jerrold's delicately-hinted suspicion, and we are not surprised to find *The Times* saying:—

"It has been found that many merchants here, who might otherwise have taken up the Australian trade, have been deterred from doing so by certain difficulties in treating the wines after the long voyage they have to undergo. Passing through many variations of temperature, the wines arrive in a condition which renders necessary their careful 'nursing' and a certain period of 'rest' before they are bottled. Wines, and more especially the finest qualities of them, are peculiarly sensitive to such variations of temperature, and so well is this fact recognised in the trade that many of the Bordeaux merchants will not ship their wines even the short journey to this country in a spell of cold weather, while French wines generally require some weeks' 'rest,' after crossing the Channel, before they are bottled. The desirability of a proper treatment of Australian wines on their arrival from the Antipodes will therefore be readily understood; but this course has not always been pursued, and a good deal of Australian wine has been put on the market here when it has not been in fit condition, the results being unsatisfactory to all concerned."

"In these circumstances the South Australian Government resolved some time ago to make a vigorous effort to put the trade on a better footing, and with this object in view they induced the Legislature to vote a sum of money which would allow of their opening in London a dépôt where South Australian wines could be received on arrival and properly dealt with before being disposed of. Mr. E. Burney-Young was sent over to London to take charge of this dépôt, and he is now completing his arrangements in connection with the necessary bonded stores, the first consignment under the new system being expected to arrive next week. It is understood that he will also, if so desired, find agents or brokers in London for the growers on the other side. Any wine consigned to these stores will have to be first declared to the Government authorities at Adelaide, who will take samples for analysis from the casks as they stand on the wharf prior to shipment. Should the analysis be satisfactory, a certificate which reads as follows will be granted:—"I, Arthur J. Perkins, Government inspector of wine for export from South Australia to the Wine and Produce Dépôt in London, do hereby certify that I have examined the wine described in the specification hereunder, and that in my opinion it is in sound condition, free from all adulteration, and is suitable for exportation as defined by the regulations relating thereto." The wine in respect to which such certificate has been granted will be received in the Government dépôt in London, thoroughly tested by an expert, and will there undergo such treatment as may be necessary to restore it to good condition and make it thoroughly fit to go on the market. It will then leave the dépôt with a further Government guarantee of good quality, and some arrangement will be made for labelling to that effect the bottles in which it will be retailed to the public. The stamp of official approval will, however, be withheld from any wine that does not come up to the required standard. Certain charges are to be made for storage, etc. It is hoped that the new arrangements will give a decided impetus to the trade. There is, for the time being, no pretence that Colonial wines will compete with the finest growths of France; but it is contended that as regards medium-priced wines the Australians can, price for price, offer an even better article than the French themselves—always provided that it is put on the market in an absolutely pure and sound condition."

This is a step in the right direction, and one which it is to be regretted was not adopted by South Australia years ago. We shall watch the result with interest, because hitherto it has been evident to us that if there was any drinkable Australian wine, those producing it have done as the *chianti* producers do, viz., have kept it at home for their own consumption and have sent to England their refuse trash.



## THE SALE OF FOOD AND DRUGS ACT.

## WHAT THE ANALYSTS WANT.

A DRAFT Bill has been approved by the Council of the Society of Public Analysts embodying all the amendments which, in the opinion of that body, should be introduced into any future legislation aiming at the suppression of the adulteration of food and drugs. In this Bill most of the sections of the existing statutes are re-enacted, the modifications proposed being made with as little disturbance of the now familiar verbiage as possible. After a careful examination of the analysts' Bill, a *C. & D.* representative called on Mr. Otto Hehner in his City laboratory, happening to be aware that that gentleman had been specially active in the advocacy of new legislation, and had taken a leading part in the production of this document. Mr. Hehner said he would be very willing to answer any questions in reference to the draft Bill, and had no other desire than to be perfectly frank as to the position taken by the analysts. The first novelty found occurs in section 2, which defines food to include every article used for food or drink by man, other than drugs or water [or any article intended to enter into or be used in the preparation of human food, and all flavouring matters and condiments]. The words bracketed are the new words.

The object of introducing that phrase, said Mr. Hehner, is to bring within the Act such substances as baking-powder, ginger, etc. Cases have occurred in which these have been held not to be foods, and unless such phrase be added, many other articles will be liable to be excluded from coming under the Act.—Under section 6 you have omitted the four defences. Why?—They are all provided for, said Mr. Hehner. The first, third, and fourth exemptions, which relate to additions required for the production of the article, or unavoidably associated with it in the process of collection or preparation, are either dealt with in section 8 or would be matters to be determined by the Board of Reference, which we shall come to later on. The second, which states that a proprietary or patented article is exempt, is unnecessary. If the inspector asks for an article sold as a special preparation and gets it, he has no reason to complain.—The next insertion is of some importance to pharmacists. You say—"Any drug sold under any name included in the British Pharmacopœia shall be required to comply with the description, character, and tests for such drug as specified in the latest edition, with amendments, of the British Pharmacopœia, provided that the drug be not included in the list of exceptions authorised to be issued under section . . . of this Act."—This is inserted, Mr. Hehner observed, with a view of making definite and uniform what is generally taken to be the law. It is only desired by the analysts to have a standard approved by the trade, and to avoid friction as much as possible. To this end any suggestions as to exceptions to be named in the schedule will be welcomed.—With such a clause enacted, would you consider that an article not named in the Pharmacopœia could be required to correspond with something else which was named there?—No, surely not. Milk of sulphur and spirit of nitre, for instance. Have not analysts claimed that these should come within the descriptions in the Pharmacopœia of precipitated sulphur and spirit of nitrous ether?—I am scarcely sufficiently familiar with the drug prosecutions to discuss these points; but any article sold under the name of any article included in the Pharmacopœia, or the synonym of such article, ought, in the interests of pharmacists, to have the composition prescribed by the Pharmacopœia. If this were legally admitted, the analyst would have nothing to do but to ascertain whether the article were of pharmacopœial quality.—But does not he suggest the prosecution in many of these cases?—Certainly not; never in my experience. Don't run away with the idea—which is unfortunately prevalent and utterly erroneous—that the analyst is a prosecutor. Of course, out of 39,000 articles analysed annually there may be a few cases where some irregularity has occurred, but the practice must not be judged by these.—Well, now, to come to section 8. You introduce some important additions there. I notice that you require that the defence of labelling an article as a mixture to be sufficient shall be much more prominent than heretofore. You say that the vendor

shall supply to the person receiving the same, a notice, by a label distinctly and legibly written or printed, affixed to the containing vessel or parcel, and on the outside wrappers of the article or drug, *in characters more prominent than any others*, upon any label or other thing, upon or with such article of food or drug, describing such article of food or drug as a mixture, and *naming the ingredients thereof, and their relative proportions, or declaring its deficiency or deficiencies*.—Do you expect to carry that?—Perhaps not in exactly that form; but I think something like it is only reasonably fair to the public. Remember, this does not apply to proprietary articles when sold under a specific name, because, if the purchaser obtains a proprietary article, having asked for it, he obtains an article "of the nature, substance, and quality" demanded. We do not want anyone to reveal his secrets; but we do not think it sufficient that on a tin of condensed milk, for instance, where there is, perhaps, a yard of print nearly, it should be a sufficient defence to say that, hidden somewhere on that label, there are a few words which not one person in ten ever reads, stating that the article is prepared from skimmed milk. So if we buy coffee or mustard, as such, we think it is not sufficient to label it "This is a mixture," in order to allow of any other ingredients being added, in almost any proportion.—This, too, is a new paragraph, I think:—It shall be no defence, under this section, to plead the accidental deterioration of the article, or accidental abstraction or spontaneous separation or evaporation of the ingredients.—Why is this inserted?—I will give you an instance. A milkman sold milk which was said to have been skimmed. His defence was that he had not kept it sufficiently stirred up, and that the first customers had therefore had more than their share of cream. The magistrates allowed this defence and dismissed the summons, but the High Court reversed the decision. We only insert that so as to have the Act express what is the actual law as interpreted by the High Court. A druggist, also, is responsible for the composition of articles liable to spontaneous alteration, such as lime-water, or spirit of nitre.—This would not, I suppose, prevent a defendant pleading an accidental deterioration with a view to mitigating the penalty.—I should think not. If it would, some words might be added to explain that this was not intended.—In section 10, in dealing with the appointment, etc., of public analysts, you take away the power now vested in local authorities "to remove him or them as they shall deem proper" and substitute the following words:—And they shall not remove him during good behaviour, and all appointments remunerations, and removals shall at all times be subject to the approval of the Local Government Board, in consultation with the Board of Reference provided for in section 30?—Yes, that is an important alteration. I will explain it rather fully. An analyst who fulfils his duty thoroughly may become a not very agreeable person to some of the local authorities. This case is not a hypothetical one. An analyst had occasion to condemn some adulterated milks, the vendors of which were on the Vestry. A section of that Vestry carried a resolution that the analyst's appointment should be determined. In the case I have in my mind the Vestry did not ultimately adopt that recommendation, but there have been many instances in which injustice has been done. Just consider. An analyst may always have done his work with care, skill, and diligence. He has established a laboratory at considerable expense, and the local authority has no fault to find with him. But a new man, who is a friend of some influential man on the Council or Vestry, appears, and this latter exercises his influence to dismiss the old analyst, and to get the appointment for his friend. That dismissal may be very disastrous for the reputation of the analyst who is thus dismissed; it might ruin him. Quite recently the Derbyshire County Council have dismissed their analysts. Mr. Allen held the appointment for North Derbyshire, and I was the analyst for South Derbyshire. We had both over and over again urged on the Food and Drugs Committee of the Council their duty to enforce the Act more effectively than they had, Derbyshire having often been held up in the reports of the Local Government Board as a county flagrantly evading the Food Acts. Lately the County Council became impatient and remonstrated with the Food and Drugs Committee, pressing them to apply the Act. The consequence was that, simply out of irritation,

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we have both been dismissed, though they express themselves in the strongest terms, as being absolutely satisfied with our work. What we want is that these appointments and removals shall be under the control of an independent, competent, and unbiased authority. At the same time I would read the expression "good behaviour in its widest sense."—The next novelty, section 13, subsection (b), is rather startling. You say—(b) Any person authorised to take samples under this clause may procure at any railway-station, or elsewhere during transit, whether within or outside of the district in which he is empowered to act, or at the place of delivery, any sample of any article of food or drug which may be consigned or addressed to any person or persons within the limits of his district in pursuance of any contract for the sale to such consignee, and such officer shall submit the same to the public analyst of the district appointing him, and the same shall be analysed, and proceedings shall be taken and penalties, on conviction, be enforced, in the like manner in all respects as if such officer, inspector, or other person had purchased the same from the seller or consignor under section 13 (a) of this Act.—This, said Mr. Hehner, is only applying to all substances the law now in force as it affects milk and tea. It is desired by the wholesalers as well as by the retailers, and it is the only way of enforcing the law fairly against both these classes. The wholesalers say they are aspersed now by defendants continually producing invoices in court, and stating that the adulterated articles sold by them were in just the same state as when they were bought. If samples were taken from the consignment the wholesale houses could defend themselves.—But what will be said if attempts should be made to put this clause in operation? When a constable goes to the railway-station, for instance, and opens a hamper of drugs and selects a few articles for analysis?—We have hardly had hampers of drugs in contemplation, but such a thing has never happened with butter or any article now under the Act, and is not likely to occur.—Well, then, say a case of wine.—There, again, I may remark in parenthesis that there has been no prosecution as regards wine under the Act. What we have in view is such goods as foreign produce, lard, butter, etc.—In section 14 you retain the old form requiring the inspector, having purchased something for analysis, to offer to divide it into three parts. Do you know of any reason why this division should not be made a matter of course?—No. The offer is generally accepted; but I do not see why in cases contemplated in that clause the division should not be compulsory if it were preferred. As an analyst, I would prefer to receive one-third of the sample only. You will notice the next sub-section, which provides that, in certain cases where the nature of the article does not admit of such division, it may be taken to the analyst, who may himself divide it into two parts, one of which is to be sealed and delivered to the purchaser.—What sort of articles are these?—Such as seidlitz-powders, dispensed medicines, aerated beverages, etc.—The next alteration occurs in section 18. The analysts suggest that it shall be made clear that the analyst shall not be required in his certificate to give the analytical data on which his opinion is based. This, Mr. Hehner explained, is to clear up a doubt. The form of a certificate is prescribed in a schedule. It now requires that the analyst shall say he is of opinion that it is genuine—in which case the rest is erased—or "that the said samples contained the parts as under, or the percentages of foreign ingredients as under." The question has arisen whether the exact analytical results are required—so much fat, so much solids not fat, so much ash, etc. (in the case of milk)—or whether it is sufficient to state so much milk and so much added water. In the case of butter, for instance, it is virtually impossible to give figures in a certificate, as such terms as "Iodine absorption," "Reichert," or "Koettstorfer number," would be utterly unintelligible to the magistrates, and if given would only confuse the court. Magistrates have dismissed summonses because the chemical details had not been given. As the analyst's attendance may always be required, it is contended that this information is not essential to the certificate. The form of certificate scheduled by the analysts is simplified thus:—After stating that a sample was received on such a date, it adds only in print, I am of

opinion that a blank being left for the opinion. A new section follows, compelling every local authority to cause their officers to take for analysis not less than one sample per annum for every 1,000 inhabitants of the district, and making provisions to get the Act carried out by the Local Government Board at the expense of the local authority should the latter neglect its duty. The proposition named, Mr. Hehner observed, is less than that actually taken in places where the Act is in fair operation, and is the minimum recommended by the Local Government Board.—Section 22 is that which authorises justices in their discretion to send samples, in cases of dispute, to the Somerset House Laboratory. The analysts propose to let this laboratory continue these functions, but they would add the following instructions:—The chemical officers of Somerset House shall state in their certificates whether the article, in their opinion, is genuine or adulterated, or is, or is not, of the nature, substance, or quality of the article indicated in the summons, and whether their analysis is in substantial agreement with that of the public analyst, and whether at the time they made the analysis the article was in such a condition as to allow of the results obtained by its analysis to be fairly comparable with those obtained by the public analyst. And the justices before whom the case may be heard may, at the request of either party, require the attendance of the officers of Somerset House who made the analysis to give evidence in explanation of their certificate, and shall give a decision with the whole of the evidence before them.—Mr. Hehner was very fluent in his comments in this clause. He said:—We must have a reference laboratory, and if the referees would only treat scientific men fairly, and as scientific men treat each other, I do not know that there is a better one available than Somerset House. Anyone may check my analysis if he is bound by the same methods and standards and by the same form of report. But is it fair that the referees should have standards which we are not told of, and should follow processes which have never been openly discussed, and which are known, or believed, to be of doubtful value? We might submit to arbitration of an authority of world-wide reputation even without having an exact statement of the details of his analysis. We might, for example, accept Dr. Frankland as a referee on water-analysis in that way. But can we be expected to repose the same confidence in men whose very names are scarcely known outside the Strand (with the exception of that of Dr. Thorpe, the newly appointed Principal, whom every chemist must respect as a man of science), and who have never given such proof of their superior knowledge as to justify the assumption that the results of their analyses are to be taken as final, or practically final, without any evidence as to their working. If, for instance, Dr. Dupré reports on a sample of wine, nobody knowing more about that subject than he, or if I, who have made butter-analysis my special study these twenty years, declare a sample to be adulterated, are our certificates to be overruled without the slightest indication of the reasons why a contrary opinion is arrived at? Is that a proper position for scientific men to occupy? If I report on a sample of milk, and that sample goes to the referees, should they not, before condemning my analysis, state what condition the milk was in when they analysed it? If it had decomposed meanwhile, they cannot possibly get similar results, or such that are comparable in accuracy with those obtained by analysing the fresh milk. A sample of so-called malt vinegar is sent to them. The analyst has certified that 20 per cent. of it was malt vinegar, and 80 per cent. was acetic acid not derived from malt or grain. The referees report that 25 per cent. of it was obtained from wood and 75 per cent. made from malt and sugar. The analyses really supported each other, but the form in which the Somerset House certificate was expressed would lead people who did not understand the matter to suppose there was some great discrepancy.—Do you object to them, then, simply because they do not sufficiently consider the analysts' interests?—No; that is not all. I speak in the interests of justice and of the public. In that malt-vinegar case, if it had not been for the shrewdness of the prosecuting solicitor the summons would

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To make CHAMPION'S Mustard, it is essential to use only the finest Mustard Seeds, inasmuch as chillies or ginger cannot be employed to produce pungency, nor can turmeric be utilised to secure high colour; consequently ripe and perfectly-coloured Mustard Seed only can be used.



have been dismissed. He was able to explain the certificate, and the magistrates found that the vinegar was adulterated. Many summonses are dismissed on account of a difference of stating the results, or the percentage of adulteration, though both analysts may have found adulteration. There must be, as I said, some laboratory or authority to which disputed samples can be sent, and the one at Somerset House might be as good as any other. But what is needed is, that the referees and analysts alike should be guided by standards and work by processes laid down by an authority which we all recognise. This body we propose to create in the Board of Reference, which we shall come to directly. This is similar to the proceeding adopted in Germany, where the Imperial Board of Health is the referee authority, and is so constituted as to command everybody's confidence. In Canada they have a chief analyst as Government referee, but standards, etc., are discussed among the analysts themselves. In the United States there is an enormous amount of legislation, varying in different States; but the Government chemist, Mr. Wiley, publishes frankly all his methods and processes in admirable reports, publicly issued and widely distributed.—The question of warranty occurs in section 25. At present it is a sufficient defence if a retailer, charged under the Act, can produce a written warranty of the articles analysed, and can satisfy the magistrates that he had no reason when he sold the article to believe it to be other than what he sold it as, and that he sold it as he purchased it. In Sir C. Cameron's Bill, which was supported generally by the grocers and provision dealers, it was proposed that the invoice should be in itself a warranty, as is the case under the Margarine Act, and later in the Fertilisers and Feeding-stuffs Act. The analysts adopt this proposal and, if anything, extend it. They propose that—(The term "warranty" in this Act shall include any written or printed document, invoice or label, purporting to be a warranty or invoice, but shall not include a mere verbal declaration. Speaking on this subject, Mr. Hehner said:—We aim to place the dealer in the same position as the private purchaser. If the latter purchases milk he need not have it warranted—he has a legal claim to get genuine milk; but the dealer is only protected if he get a specific warranty, and this perhaps the wholesale house will not give. It may be he is not in a position to insist upon it. Perhaps he owes the wholesale house some money, and is bound to buy of them. Since Sir C. Cameron's Bill was first introduced the High Court decisions have tended in favour of the dealer in this respect. In the *Laidlaw v. Wilson* case (a lard case) it was held that a warranty might be implied from a general contract and an invoice, and since then hundreds of cases have been rightly or wrongly dismissed on the production of invoices. So numerous have these dismissals been that the Act may be said to be dead as far as lard, butter, and vinegar are concerned. And under the Act as it now stands there is no machinery for prosecuting the wholesale dealer, who can only be reached most exceptionally, and as a matter of fact has only been proceeded against in very rare cases.—But if the invoice were made a warranty, would not the effect be to transfer all actions to the wholesalers?—I do not think so. The wholesale houses wish for this alteration as much as the retailers. They consider it would enable them to defend themselves against unfounded aspersions.—Finally we reached the Board of Reference, which the analysts appear to regard as their principal *cheval de bataille*, and which, they believe, would obviate the immense amount of friction existing between them and Somerset House, and would unify the working of the Act over the whole country. This body, as we stated last week, they propose should be composed of the Principal of the Somerset House Laboratory, a person appointed by the General Medical Council, three analysts appointed by the Local Government Board, and a person nominated by the Board of Agriculture. The duties of this Board have been already indicated. Briefly, the settlement of standards and recognised methods of analysis and the consideration of difficulties generally, would be committed to them. It is suggested by some, Mr. Hehner remarked, that the various trades should be represented on this Board. This is Mr. Bannister's idea. But that would make it a trade council, and not a scientific council. Every trade could not possibly be represented on such a council, and if one were, the others would have a right to complain. The council would have to deal with scientific matters mainly, of which traders could know nothing whatever. The idea is that our Board would seek from those specially conversant with the commerce in any article all the information and advice they could get.—But do you not think that pharmacists have a right to expect that somebody on that council would be specially qualified to judge about drugs?—But that is specially provided for by the appointment of a person nominated by the Medical Council.—But they would appoint a medical man.—I should think not. I should think they would select the most competent pharmaceutical authority they could find; that, at least, was the intention of the council of the Society of Public Analysts.—Why not give the appointment to the Pharmaceutical Society, then, if you want a pharmacist? Because the Medical Council are the legal Pharmacopœia authorities, and it is supposed that they would appoint a person who would be specially qualified to interpret that standard. I have no objection to Mr. Umney's two pharmacists, nor to ten if they can assist the objects of the Board. This is an opportunity, Mr. Hehner added, in concluding the interview, for a fresh start. There have been mistakes, no doubt, and misunderstandings and friction. There is room, of course, on many points

for a legitimate difference of opinion. But we can, if we will now agree to an Act under which the trades, the analysts, Somerset House, and everybody can work together to the advantage of all.—*The Chemist and Druggist.*

## OBJECT LESSONS IN MAKING THE FOOD AND DRUGS ACT A FARCE.

THE following cases are typical ones, inasmuch as they show the slipshod manner in which many town clerks get up cases, and how magistrates deal with proved adulterations:—

At Cambridge, on August 31st, William Curtis, milk seller, Hope-street, was summoned for milk adulteration. Mr. Whitehead prosecuted and Mr. O. Papworth defended.—Mr. Papworth objected to the summons, on the ground that it was defective, and did not say whether they were accused of adding water or of abstracting fat. He quoted a case on the point.—Mr. Whitehead said he had not seen that case.—The Chairman said that the amended Act required that the defendant should have seven days' notice of the fact.—The town clerk was shown the case, the Chairman saying that he thought Mr. Papworth's objection was fatal.—The Town Clerk was understood to say that he saw no way out of it.—The Chairman: We all live and learn you know; at least we ought to.—The Town Clerk: I did not see the summons at all, sir.—The Bench dismissed the summons.—Mr. Papworth asked for costs, which the Bench allowed.—The Chairman said if the cases had the effect of no more water getting into milk, either by rain or otherwise, it would be worth the money to the town.

Robert Dearsley, milk-seller, Thoday-street, Romsey Town, was summoned for selling, through his agent, Edmund Hardy, a quantity of milk not of the required standard, to William Tias Taylor, inspector of nuisances, on August 10th.—Mr. J. E. E. Whitehead prosecuted, and Mr. J. Ellison defended, and pleaded not guilty.—Inspector Taylor said on August 10th he went to Mill-road, Romsey Town, just before five o'clock in the afternoon, and met a boy on the road with a milk-can on the other side of the Great Eastern bridge. He asked him his name and he told him he was at work for Dearsley. Witness asked for a pint of milk, and he said he had none to spare and that witness must wait till Dearsley came by. Witness said he could not help that.—By the Bench: He was in uniform.—Witness said he asked the boy to go into the bar of the "Beaconsfield," where he got the milk and told him he was an inspector and required the milk for analysis. He divided the milk into three parts and put them into bottles, sealed the bottles, and gave one to the boy. He delivered one of the bottles to the public analyst the next morning. Two or three days after he received the analyst's certificate, which Mr. Whitehead read and which stated that in the analyst's opinion the milk contained not less than 18 per cent. of added water.—Witness said that on crossing the bridge about ten minutes after he met the defendant driving. Defendant said "I am sure there is water in that, look how its been raining, and the boy has been out since three o'clock."—By the Chairman: He apparently knew at that time that witness had taken the milk.—Continuing, witness said the milk was taken from a can, and there was about a quart in it. It was an ordinary milk-can with a spout and lid. The spout was exposed so that it would let the rain in. The spout would be about 1½ in. one way and 1½ in. the other. The medical officer had ascertained the rainfall on that day, but was now on his way to Buda Pesth.—Cross-examined: He paid twopence for the milk. It rained very fast that afternoon, and he took shelter in the "Earl of Beaconsfield" for some time. He could not say for certain that the cans were not left out in the open, but the boy was not wet.—The Chairman: Are we to understand that customers are to have 18 per cent. of added water on wet days.—Mr. Ellison: Not on ordinary wet days, sir; this was an extraordinary wet day.—Mr. West Knights, the analyst, was then called, and, replying to the Chairman, said that he could not tell by the analysis if the water had been actually added, but he meant that there was 18 per cent. more water than there ought to be.—Cross-examined: The poor condition of the cows might add to the quantity of water.—Mr. Ellison informed the Bench that Mr. Knights said

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that the low condition of the cows would add to the amount of water very considerably.—Witness: No, not very considerably.—By the Bench: The sample was a very poor sample of milk.—By Mr. Campkin: It might have been a poor sample of milk before 18 per cent. was added. Mr. Ellison put some questions to Mr. Knights as to whether the water could not have got into the milk in the form of rain. The Chairman thought it was not very complimentary to the intelligence of the magistrates to ask them to think that this water came through the spout of a milk-can.—Mr. Ellison: That is what I am going to ask you to do, sir. Replying to Mr. Porter, Mr. Knights said that he had made his calculation on the poorest state of milk known.—Mr. Ellison said he should show that the milk was taken round in the same condition as it came from the cows.

Edmund Hardy, 34, Madras-road, employed by the defendant, said he assisted defendant in milking his cows. On August 10th he and his employer each milked three cows. The milk was all put in one can. It was put in smaller cans and taken round. The cans were never out of his sight and no water was added. It rained that afternoon and he left the cans in the open and took shelter in a passage. He had just a pint in the can and had none left after serving the officer. The can was full when he started and held a gallon.—By Mr. Burford: He had only a pint left when he took shelter.—Mr. Whitehead having cross-examined, defendant was called, and said he had been in business nine years. He would swear that no water was added to the milk by him, or anyone, so far as he knew. Inspector Taylor told him that afternoon that he had taken a sample of milk from the boy, and he said, "A good day for the job; what do you expect you have got there?" He asked if he would take a sample from any of the cans he had in his cart, and the inspector refused.—Hardy said he did not buy any of the milk that afternoon.—The inspector said defendant did not offer him any other milk.—The magistrates retired, and on their return the Chairman said, although it was a very suspicious case, the Bench did not think it was proved beyond doubt.

#### DEATH FROM ADULTERATED MILK.

*The Englishman*, Calcutta, says: "It is now stated that Lady Bonser's death must be ascribed to adulterated milk. While travelling in the interior, and suffering from a slight indisposition, she drank a quantity of milk that had been very much watered. The precaution was not taken of boiling the milk, which is believed to have contained disease germs."

#### ADULTERATED LARD.

At the Llandaff Petty Sessional Court on September 10th, before Mr. John Gunn and Colonel Woods, Martha Jones, a grocer, of Tongwynlais, was summoned for selling lard adulterated with beef stearine to the prejudice of the purchaser on August 9th.—Sergeant Evans, inspector for Glamorganshire under the Food and Drugs Act, said that, in company with Sergeant Nott, he purchased from defendant's shop  $\frac{3}{4}$  lb. of lard. It was served to him by the defendant's son, whom he told that it was for analysis. He divided the article in the usual way, and the part he sent to the public analyst at Swansea he now produced a certificate of. The certificate stated that the sample contained 75 per cent. of lard, and 25 per cent. of beef stearine.—Sergeant Nott corroborated.—For the defence, Mrs. Jones said that the lard was sold as a mixture, and that she generally wrapped it in paper stating the nature of it.—Mr. Gunn, in fining her 20s. and costs, said that the public must be protected. The Bench could not have mixtures sold as the genuine article.

#### MR. STOKES ON ADULTERATION.

MR. ALFRED STOKES, F.I.C., public analyst for Paddington, in his current report to the Vestry, writes: "In spite of all the amendments, fresh legislation is needed. The present laws are found unsatisfactory alike to the farmer and manufacturer who produce the articles, to the vendor or middleman, and to the purchaser or vestry authority, who, when defrauded, has often no legal remedy. The farmer cannot produce butter to compete with margarine sold as butter, nor can he supply pure milk at the price of the mass of skimmed-milk sold in tins as whole milk. Almost the whole of this margarine comes from abroad, as does also the tinned milk; so that honest British produce is undersold by foreign adulterated goods." As the law at present stands the vestries are often powerless to prevent this.

"You may ask at a shop for coffee, cocoa, butter, and a tin of milk. For coffee you may get 90 per cent. of chicory; the butter may consist entirely of margarine; the cocoa may contain 80 per cent. of starch and sugar; there may be no cream at all in the tin of milk. Yet if these are marked somewhere on the paper containing them as 'mixtures,' or as 'margarine,' you will have little or no remedy. The right to have what you ask for and nothing else is not yet ensured by any Act of Parliament. The special Act to prevent margarine being sold as butter has quite failed; it allows of fines ranging from £20 to £100. The last fine for selling 90 per cent. of margarine as butter was 1s.; while this quarter a servant enables his master to make a profit on a similar article without any fine at all. Legal difficulties as to the present defective form of certificate of adulteration prescribed by the Act, the place of delivery of an adulterated article, questions as to whether the sender, the receiver, the vendor, or his assistant are liable, help to protect the adulterator and need revision."

#### COFFEE AND 25 PER CENT. CHICORY.

On September 5th, at the West Riding Police-court, Sedburgh, John Hall, in the employ of Philip Henry Lockwood, grocer, Sedburgh, was fined 5s. and £1 costs for selling, on July 20th,  $\frac{3}{4}$  lb. of coffee adulterated with 25 per cent. of chicory.—Inspector A. Randerson, Shipton, prosecuted on behalf of the West Riding of Yorkshire County Council.

#### THE MARGARINE ACT.

At Leeds Police-court on September 10th, William Midgley, provision dealer, trading as W. Wilson, at 109, Dewsbury-road, Hunslet, was fined 20s. for exposing margarine for sale by retail in his shop on August 16th, there not being attached to it a label, in 1 $\frac{1}{4}$  in. square letters, as required by the Food and Drugs Act.—Mr. Jolliffe, deputy town clerk, prosecuted.

#### LONDONDERRY AND ADULTERATION.

The city analyst, Dr. Lebody, says:—I beg to report that during the quarter ending July 31st, 1894, I have, as instructed by you, made chemical and microscopical analysis of sixteen articles of food and milk—of three samples of sweetmilk, three samples of buttermilk, four of lemonade, two of whiskey, one of soda water, and three of drinking water. The sweetmilk was of excellent quality; the buttermilk samples were also of good quality, none of them containing more than 10 per cent. of added water. The lemonade was of good quality; the soda water was inferior, but not adulterated or contaminated by metallic impurities. The whiskey was of low alcoholic strength, but within the legal limits, and free from adulteration. The water supplies were taken from the city supply (old and new) and from the Waterside supply on July 5th. I have sent in the detailed analysis of these samples, which showed satisfactory results."

#### BOROUGH ANALYST APPOINTED FOR LUTON.

At a meeting of the Luton Town Council the Sanitary Committee reported that they had had an interview with Mr. Arthur Edward Ekins, of 7, Market-place, St. Albans, public analyst for Herts, etc., in reference to his application for the appointment of analyst to the borough, and after hearing statements as to his qualifications and the appointments already held by him, they had resolved to recommend the Town Council to appoint Mr. Ekins public analyst. Mr. Ekins stated that his fee for analysing any sample under the Sale of Food and Drugs Act, forwarded to him by any person from the borough of Luton would be 10s. 6d., and his fee for analysing and giving a certificate for water samples would be: Qualitative analysis £1 1s., ordinary and microscopical examination £2 2s. Alderman Puddephatt moved the adoption of the report, Alderman Oakley seconded, and it was agreed to unanimously, and the resolution ordered to be sent to the Local Government Board.

#### BEER AND WATER.

At Lambeth on September 10th, John Henry Redfern appeared to answer a summons taken out by the Excise for diluting beer.—Mr. Hawkins, from the Solicitors' Department Somerset House, appeared in support of the summons, and said the defendant was the holder of a fully-licensed house in South-street, Walworth. On July 16th his premises were visited by the Excise officers, who took four samples of various kinds of beer. The stout and the porter were both found to be all right, but both samples of ale upon examination were found to be diluted, one to the extent of 2  $\frac{3}{4}$  gallons in a barrel of 36 gallons, and the other to the extent of 2  $\frac{1}{2}$  gallons.—Mr. Farman, supervisor of Excise, gave formal evidence in support of the summons.—Mr. Rooth, barrister, who defended, said the defendant had trusted to the integrity of his servants, and had no knowledge of the dilution.—Mr. Hopkins remarked that these cases showed how necessary it was that a licence-holder should exercise a constant supervision over his business.—The defendant must pay a fine of £10 and costs.

#### AMERICAN LARD REVELATIONS.

An application was made by Inspector Grist, sanitary officer for St. George-the-Martyr, on September 5th, for an order for the destruction of a large quantity of lard which was alleged to be unfit for human consumption. The lard in question was lying on the premises of a wholesale provision dealer in Stamford-street, and when the attention of the medical officer was called to the lard he expressed the opinion that it was unfit for food. A sample was brought to the court, and Mr. Marsham directed Sergeant Seymour, the chief warrant officer, to go to the premises and to inspect each barrel separately. This the sergeant did, and in court a barrel was brought for his worship's inspection. After smelling the lard Mr. Marsham said: I don't think this is very bad, and it is clearly of some commercial value. A representative of the firm on whose premises the goods were warehoused said he did not think it was worth more than £20 a ton. It cost £40.—Mr. Marsham: Do you intend to sell this?—Witness: No. We found it was wrong. It was consigned from America, and we didn't think we ought to pay for it.—Mr. Marsham: That is exactly what I thought. You want me to condemn the stuff, in order that you may get the money returned to you from the consignee abroad. It is not deposited for sale or exposed for sale, and I have no evidence that it was intended for human food.—Inspector Grist: It will be used for making pastry.—Mr. Marsham: I don't think the firm will sell it. If they do they will render themselves liable to a very heavy penalty.



## ANOTHER RAIN-IN-THE-MILK YARN.

At Bristol Police-court on September 5th, Henry Chinnock, milk seller, was summoned under the Food and Drugs Act for selling through his servant, Thomas Evans, a pint and a half of milk which was adulterated. Inspector Fletcher, who proved the case, stated that he purchased the milk of Evans, a lad in the defendant's employ, whilst he was selling to customers in Winstanley-street, Barton-hill, on August 15th. The result of the test of the city analyst was that the milk was certified to contain not less than 7 per cent. of added water. Mr. Sibly (Messrs. Sibly and Dickinson) appeared on behalf of the defendant, and stated that the defendant accounted for the water by saying that it was very wet when the cows were milked, and the rain got into the milk.—The Bench fined the defendant £2 and costs.

## THE BOARD OF AGRICULTURE PROPOSES TO DO SOMETHING.

COMPLAINT to the Board of Agriculture that foreign fruit and horticultural produce are frequently marketed and sold as English grown have been made for a long time past, and the Board has at last decided to undertake prosecutions in such cases under the Merchandise Marks Act. The practice of transferring imported goods to English baskets, in order to deceive purchasers, extensively prevails at certain London and provincial markets. The Board of Agriculture has drawn up a number of regulations on the subject which it is believed will shortly be issued to Chambers of Agriculture to check these frauds.

## A MODEL DAIRY FARM.

MR. JAMES CULBERT, dairy inspector, reported to the Lisburn Board of Guardians on the 22nd ult. that he had visited the premises of a dairyman, in Upper Malone, who, he was informed, owned twenty-six milch cows. On going through the byres he (Mr. C.) found them in a very filthy condition, seemingly not having been cleaned out for days; also, manure outside the doors in heaps, and in a semi-liquid state, and most offensive. The four byres were all alike dirty and neglected. Two of them had been lime-washed some time since; the other two apparently not for years. In short, the whole premises presented a most neglected appearance.

## PROTECTING THE PUBLIC IN WEST HAM.

DR. C. SANDERS, the medical officer of health for the borough of West Ham, had three summonses against milk dealers, on Sept. 5th, for selling milk not of the nature, substance, and quality demanded.—Francis Cripps, of 2, King-street, Barking-road, was summoned for selling milk which on analysis proved to have been adulterated with 32 per cent. of added water.—Mr. F. George defended, and it was admitted that half a pint of water was added to the gallon.—Mr. Baggallay imposed a fine of £4 and costs.—Thomas Philip Child, of 8, Ingal-road, Barking-road, was fined £3 and costs, in respect of a milk adulteration of 14 per cent. of added water.—John Hardwick, of 11, Ascot-street, Canning Town, for selling milk from which half its cream had been abstracted, and not making disclosure of the alteration, was fined £2 and costs.

## THE SELECT COMMITTEE ON ADULTERATION.

X.

## CONTINUATION OF COL. HAYWARD'S EVIDENCE.

(Continued from page 287.)

WAS it really a protective association, so far as their interests were concerned?—Yes.—I think an honourable Member asked you whether you were able to differentiate as to the sources of origin of these butters, as to whether some of them were country fresh butter or foreign butter, and I understood you to say that it was impossible to tell?—I could not tell; I have no evidence to tell that.—There is one question that I would like to put in order to dismiss, if possible, somewhat of a fallacy that seems to prevail in agricultural districts, that is to say, that this adulteration is the cause of the depression in the prices of butter, that it practically governs the low prices prevailing in butter. Is that an accepted idea?—I think that is a fact.—Then it is an accepted idea, so far as your association is concerned and agricultural associations?—I believe it is.—Have you ever heard of the official quotation for butter being fixed, for instance, in Denmark and Copenhagen every week; have you ever heard that there is an official quotation fixed every Thursday in Copenhagen, which practically governs the selling price of all butters on the English market, other than fresh butter?—Yes, I know that there is a fixed price in Denmark; I did not know that it was fixed by authority.—You have heard, of course you must have seen, in reading the *Times* and so on, that there are market quotations fixed for the bulk of the butters that are sold in commercial quantities on the produce markets of this country?—Yes.—First of all, taking the case of Danish butter, do you suggest that Danish butter is adulterated?—No, not when it leaves the country.—Do you suggest that it is adulterated when the vendor gets it?—Yes.—Then I will take the point of the butter leaving that country. You do not suggest that Danish butter is adul-

terated when it leaves that country?—No, they inspect it carefully, I believe, there.—Then in the fixing of the market price of Danish butter, those who fix it would not take into their purview the possibility of making the price lower in consequence of the butter being adulterated?—No, I do not suppose they would.—Perhaps you will permit me to tell you that this official price, so far as Danish butter is concerned, is fixed in Copenhagen by a Board selected from merchants and brokers, and so on, officially, every Thursday after the boats have sailed, and after the butter is out at sea that quotation is fixed, and that quotation is telegraphed to the London markets; therefore, I ask you whether you agree with me that when these reputable people meet together to fix this price the question of adulteration does not come into their consideration at all when the price is being fixed?—I daresay not.—Then so far as regards Danish butter, at all events, adulteration can have no effect on its market price?—Yes, it has most certainly, and I will tell you why. I believe, though I cannot bring you chapter and verse, that you will find that butter is often sold in provincial towns in shops at a price that gives no margin over the price in Copenhagen.—What butter?—The Danish butter.—So-called Danish butter?—So-called Danish butter.—It is sold retail, you say, practically at the official quotations?—I do not know that. They would not sell it under that.—Still that does not get away from the fact that the official price of butter is fixed, or rather the price, so far as Danish butter is concerned, is fixed by an official Board, and therefore that the market price of that butter must be fixed according to its market value, or the price that is expected to fetch in the market?—But then the butter would be sold in this country at a price which paid for the carriage, and which allowed for a certain amount of profit to the retailer who retails that butter; but if you find butter being sold at a price not exceeding the price at which you can buy it wholesale in Copenhagen, that cannot be done by fair means.—But before the retailer gets hold of this Danish butter it has to come to the merchants for distribution; you do not suggest that the merchant sells this butter to the vendor, to the retailer, at a lower price than he is able to buy it at from the exporters in Denmark; or to put it the other way round, do you suggest that the merchant is responsible for the adulteration?—I suggest that the retailers who sell tons (as many of them do) in the towns are able to sell butter below what they purchase it at, because they sell so much margarine in the butter that they get 50 per cent. profit on it; that is why they are able to sell the butter even below what they purchase it at.—You mean that they are able to sell butter and margarine mixed together?—No, to sell butter. The process, I believe, is this: You have butter, and you have margarine all round. For instance, there is a label with "Guaranteed pure butter," and there are two or three pats of pure butter, and all the rest is margarine; they are coloured exactly alike, and nobody knows which is which. A man comes in, or somebody suspicious, he asks for butter, and he is given one of those pats which is a piece of pure butter, and he gets an article which is worth more than he gives for it. The women, who are the many, come in afterwards, and they receive these other pieces all round, which are not worth half the sum.—They receive margarine, you suggest?—Margarine or a mixture.—You say that the butter should be ticketed "Pure butter"?—Yes, generally.—But the margarine should be ticketed as margarine?—No; you find it all round this one label. The actual piece of butter on which the label is put is pure butter.—But not the surrounding butter?—The surrounding butter is margarine or mixture.—I will not unduly press you on this point, but that does not get away from the point which I am trying to make, which is this: that the market prices formed by the exporters and by the merchants of butter is not at its normal figure, whatever that may be (it varies according to the time of year); it is not at a lower figure than it has been in years gone by, simply and entirely owing to adulteration. What I want to impress upon you is that the price of the genuine article is officially fixed by important bodies either by exporters abroad, or by merchants of great respectability and repute in this country, and that if the English producer makes a good article and in sufficient quantity to be deemed commercial, he can command for his product a price consistent with that prevailing in the very best classes of butter which are being imported into this country either from Ireland or a continental country. Would you not go with me to that extent?—To begin with, I do not allow all the butter that comes in from abroad is pure butter.—I admit that?—Then, again, those men in a town who sell large quantities of this butter, which, I say, I believe they can afford to sell below what they give for it, rule the price.—The price of what?—The price of butter.—Retail or wholesale?—Retail; they rule the prices in that town to a great extent. For instance, in neighbouring shops, if you have three or four shops which sell nothing but so-called butter, and they are selling it at 1s. a pound, and you find that you cannot make butter under 1s. 1d. or 1s. 2d. a pound, you cannot get that because the local retailers say, "What is the use of our selling butter at 1s. 3d. when those men over the way are selling butter at 1s.?" We may for our English butter get 1d. a pound more, but we cannot do more, because people will then go and buy butter from those shops; and in that way they depress the general price.—You mentioned the price of 1s. a pound retail for butter; do I understand rightly that the agriculturists in your districts are able to sell butter to a retailer at such a price as that, he can afford to retail it at 1s., and get a profit for himself?—There is plenty of butter sold in Gloucester at 1s. a pound.—Country butter; made in the locality?—Yes; if you sell to the retailers, in



Gloucester, or any other town during the summer months, you will get such a price that the retailer can make his profit on it at about 1s. a pound.—Then 1s. a pound retail in the summer months would not necessarily indicate an adulterated butter; it would be quite consistent with the butter being pure that it could be retailed by respectable vendors at 1s. a pound?—Yes, because those other people are selling the butter at that price too.—I do not think the two things follow; I cannot quite see that that is necessarily so. But, as a matter of fact, you do sell, or rather the people that produce butter locally can sell it to leave a profit at 1s. a pound in the summer to the retailers?—No, certainly not. You cannot make butter at a profit to sell at 1s. a pound retail.—I must ask you, then, are you aware that the official price for Danish butter, which you do not impute to be adulterated, runs as low as from 80s. to 90s. a cwt. during the summer months, and consequently it would, would it not, leave a margin at 1s. a pound for the retailer?—That would not leave a margin when it was brought over to this country.—But you can get it into this country at 2s. 6d. a cwt. right away from Denmark to London. As regards the citizens of these places being apathetic, do you suggest that it is because they are, some of them, really interested in the sale of these goods?—It is very difficult to exactly state the motives that prevent people carrying out the Adulteration Acts; it is not only in produce, but in every other article it is the same.—Would it be in your opinion an unpopular thing to rigorously enforce these Acts?—No, I do not think it would; but I think it is a very mistaken idea that it might cause momentary unpopularity to some individual.—But it would really be the act of the collective body, would it not?—Yes. Well, in some of these towns it is very difficult to get things done.—I think I understood you to say that the samples which were taken by your association were chiefly from the smaller shops?—We chose all the small, and of course some of the big shops as well; we chose the shops that sell nothing but butter, but we particularly went round all the smaller shops.—But you did not exclude altogether from your observation large shops?—No.—And you are in favour of the suggestion set forth by the Agricultural Association that travelling inspectors would be beneficial for the effective administration of these Acts in those localities where the local authorities fail to put them in full working?—I am.—And you were rather more fortunate, I think, were you not, in the fines that you succeeded in getting, than the majority of the local authorities; I think you mentioned that you had succeeded in getting a man fined as much as £15?—Yes; that was, I think, because he had a previous conviction.—But there were three others fined £5?—Yes.—Has it been discussed by your association that the inadequacy of the fines inflicted in many cases tends to encourage adulteration?—Certainly.—And has any opinion been expressed as to the advisability of inflicting imprisonment after previous convictions?—I do not think that we have suggested that, but we thought that if there was a minimum fine as well as a maximum fine it would be a good thing.—Would you consider that it would be an undue hardship for a man to go to prison who persistently adulterated?—Not if he were convicted over and over again.—Then you referred to the action taken by the Danish Commissioner; I presume it would be Mr. Faerber?—Yes.—Can you tell me as to whether he prosecuted under the Margarine Act, or under the Merchandise Marks Act?—That I cannot tell.—Of course, under the Merchandise Marks Act it would be for false description; under the Margarine Act it would be for selling an article as butter which was not of the nature and quality of butter?—I think it was the Margarine Act; I am not certain. I had some correspondence with him.—I am rather inclined to contradict that, if you will excuse my doing so; I think it was really under the Merchandise Marks Act.—I cannot tell you of my own knowledge which it was; I have forgotten.—I suppose that your association would admire the action, and they may have expressed their admiration of the action, of the Danish Government in keeping a Commissioner over here to protect their product against unscrupulous traders from selling a counterfeit of their butter?—Certainly; I think it is very beneficial, and also it was the first means that we had of bringing the Gloucester Corporation to book.—You may have heard incidentally that Mr. Faerber has conducted many prosecutions in different parts of the country against vendors who sell as Danish butter something that is not Danish butter, and is, moreover, adulterated with margarine?—Yes.—And that he is employed by the Danish Government to protect their interests, as you are probably aware?—Yes.—Mr. Kilbride: I understand you to say that your association have no objection at all to the sale of margarine for what it represents, at all events?—No.—Have you read the Bill that was introduced by Mr. Horace Plunkett and Mr. Dunbar Barton to amend the Margarine Act; it contains this provision; will you kindly read it, and say if it exactly meets the views of your association (*handing the Bill to the witness*)?—Yes, that meets our views exactly.—“On and after the commencement of this Act it shall not be lawful to colour margarine either by the introduction of any colouring substance or by any colouring process in its manufacture or in its preparation for sale, or to mix it with butter that is artificially coloured, and no substance sold as butter shall contain any other fat than butter fat.” That is exactly the view of your association?—Yes, it is.—You said that the English people desired to have a high-coloured butter?—I do not say high-coloured; but butter with a certain colour.—Do your association object to have butter coloured?—No; they do not object to it one way or the other.—I take it that your association do not consider the colouring of butter adultera-

tion?—No.—Would you hand over the administration of the Sale of Food and Drugs Act to the parish councils and county councils?—That is what it is at present.—I thought that the objection given here by witnesses before was that this Act was not put in force by the existing local authorities?—No, it is not; but then at present it is under the county councils and town councils.—Would you hand it over to the parish councils?—No, I do not think it would be any advantage.—You are of opinion, are you not, that there are not enough local inspectors?—I think that you want some outside influence to make local bodies who have no interest, or no wish to carry out these Acts, to do their duty.—Would you give the Local Government Board compulsory powers over these local bodies?—Yes, I think that would be preferable.—What price, in your opinion, would pay a dairy farmer as an average price for his butter all the year round?—It would be very difficult to answer that; it must depend very much upon various circumstances.—It was suggested to you that adulteration, or the sale of margarine, was not the cause of the low price of English butter at present; that the low price of English butter was due to prices fixed in Copenhagen, which are regulated by a board?—That was suggested to me.—Is it your opinion that the fact of a large quantity of adulterated butter going into the market, being known to the board in Copenhagen, the board in Copenhagen in other words knowing that they have to compete in this country with an adulterated article, that knowledge influences the Butter Board in Copenhagen, and compels them accordingly to fix a lower price for putting pure butter than they otherwise would if there were no adulterated article sold over here?—I have no doubt that they suffer in the same way as we do as producers.—So that the sale of the adulterated article sold here as butter necessarily reduces the price of pure butter in Copenhagen?—It naturally must reduce the price all over the world, I think, of pure butter, when so much adulterated butter is sold as pure butter.—Mr. Yerburgh: There is one point that I want to clear up. I understood you to say that out of the 15 samples that were found to be adulterated amongst the 64 which you took, from those same shops from which those samples were taken by the analyst on behalf of the corporation, only four dealers were convicted; is that so?—Out of the 15, I think, that we found to be adulterated when the Public Officer of Health took the samples, only four gave evidence sufficient to ensure a conviction, and only four were prosecuted.—So that, although, when your buyer went round, he or she obtained samples from those 11 shops which gave, I understand, from 20 to 50 per cent. of foreign fats, yet when the buyer of the corporation went round and took samples, the samples that the corporation official obtained did not give sufficient evidence of adulteration to enable him to say that there was adulteration?—Yes.—Therefore that goes to show that your contention that the corporation officials are too well known to obtain adulterated samples is correct?—Yes.—Upon the question of the colourisation of margarine, I want to ask you whether you were aware that New Hampshire has an Act of 1885 for colouring artificial butters pink?—I believe I was aware that some State, I will not say that particular one, had passed such a law.—And that New Jersey has an Act of 1886 under which no colouring is allowed?—I was not aware of that. Then are you aware that in 1887, the attention of the Russian Government having been drawn to the increasing production of oleo-margarine, certain regulations were drawn up by the Minister of Imperial Domains, amongst which were the following: That margarine fat shall be dyed some bright colour, but in no case shall such colour be yellow; and, in another clause, that the vessels in which margarine is packed at the manufactory shall be dyed the same colour as the margarine?—I was not aware of that provision about the vessels.—Are you aware that these provisions have been submitted to the Medical Council of the Minister of the Interior, and the Medical Council proposed that margarine fat should be dyed red by means of the rind of the alkali root or with alkaline, and that the cases or firkins in which the oleo-margarine is contained and despatched should be coloured red?—No; I was not aware of that.—Can you tell me whether you are aware of any expression of opinion in France as to the colouring of margarine?—I remember reading a report of a deputation which waited upon the Minister of Agriculture to suggest that the margarine should not be coloured, and should not be allowed to be mixed with butter, and the answer he gave to the deputation was that it would destroy the butter trade with England.—Are you familiar with any expression of Danish opinion upon the same point?—Not of my own knowledge.—Colonel Bagot: I understood you to say that the officially regulated price of pure butter in Copenhagen ruled the price of butter in the English market?—No, I did not quite say that. I said that I believed that you would often find butter sold in the provincial towns of England at a price which left no margin over the official price of Copenhagen.—But, practically, do you think that the price at which foreign butter can be sold to the merchant, plus the carriage, gives the standard of the price of English butter?—No, I think it is very often sold below that.—Then you thought, so far as I understood, that the low price of English butter was to a large extent due to adulteration by certain other fats, margarine, or whatever it is, in foreign butter?—Yes; and with butter generally.—Could not English butter be adulterated in the same way, and consequently be under the same circumstances, and provision so far as regards price, with regard to the adulteration with foreign butter?—Of course you can adulterate English just as you can foreign butter.

(To be continued.)



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## Food and Sanitation.

SATURDAY, SEPTEMBER 22ND, 1894.

### SANITATION'S LORDS AND MASTERS.

It is the fashion amongst a certain school of pretentious politicians, who never tire of telling the public that they are the only real social thinkers of the present day, to demand that ever-increasing powers should be delegated to local authorities. They ignore entirely that it is to-day as true of mankind in the aggregate "that they are as well fitted for flying as for thinking," as it was in the time when Swift so described the sovereign people. Were it otherwise the occupation of shallow charlatans of the W. T. Stead and "General" Booth order would be gone, and vast masses would not be found drinking in as concentrated wisdom the frothy ignorance of self-seeking, windy humbugs of the John Burns and Tom Mann class. "Delegate all powers to the locally elected of the people," such saviours of society cry. "Hand over the means of production—mines, machinery, and land—to the chosen of the people in mapped-out districts, and we shall see England smiling with plenty, and robust with health." As far as sanitary powers are concerned they ignore the fact that it is the poor inhabiting the very worst plague spots who invariably strive the most strenuously to conserve disease and stink areas. It is these very people who appear to take the keenest of delights in undoing the good earnest sanitarians may effect. No sooner have flushermen cleansed the walls and paving of one foul Drury-lane court of the ordure with which its filth-fostering dwellers bespatter it—for they prefer to throw the contents of chamber-pots, green-water, etc., against the walls of the court to walking a few yards to deposit the ordure, etc., in the receptacles provided—than the inhabitants begin anew their excretal mural decorative work. Many of the courts require at least a visit per day for such cleansing which, were there a spark of decent feeling or of desire for cleanliness existing in the denizens, would be unnecessary.

But here the shallow-pated Burns and Mann spouters are ready with specious arguments—learnt by rote from more intelligent advocates, such as Sydney Webb—that such conduct is the fault of the *environment* of the poor;

that given better opportunities the disgusting conservation of filth would disappear. But looking higher in the social scale we find as much apathy with respect to sanitation even if there be an apparent conformation to the primary laws of health. The middle class as well as the upper class do not individually object to sanitary progress when applied to other persons' property; but let an earnest sanitary inspector or medical officer condemn the drainage of their own houses and it is soon found that it only needs a very slight scratch of the individual who clamours for perfect sanitation to reveal the Tartar who prefers to conserve disease-spreading conditions, if their amelioration means the expenditure of any money. The Hornsey jerry-builders and property-owners, with their brazen attempt at intimidating Dr. Clothier, and the Ilkeston ousting of the medical officer are recent cases in point. The truth is that in sanitary matters more than in any kind of public work the ignorance of those composing the local authorities is so amazing as to be well-nigh incredible. Battersea, which is sufficiently enlightened to return Mr. John Burns to the House of Commons, afforded the spectacle in a recent discussion at the vestry on sanitary matters of one of the elect of the people talking glibly about "tubular diseases" and educating his fellow vestrymen into the character of an ailment which be described as "tripod fever," and he wanted "a crematoria" in every parish. Another member would not accept a statement upon the "hipset dixer" of the chairman. At this same vestry a member declared the chairman ought to be "like Potiphar's wife, above suspicion." When it was proposed to give a deserving official "an honorarium" a member wanted to know whether it would not be an inducement to the official to waste his time. "If he attends to his duty he won't have much time to play the honorarium," said this enlightened supporter of John Burns.

In another vestry the leading spouting light abused the medical officer because he had made no reference in his report to a case which the vestryman took an intense delight in describing as one of "haricot veins," and was greatly riled at its non-classification amongst the zymotic diseases. But these instances of the capacity of local authorities to understand what they are talking about in sanitary matters must bow their heads in shame before that of a Leeds alderman—a present Radical candidate for Parliament—who discussed with his fellows at a meeting of the town council the question of beautifying Roundhay Park. It was proposed to place half-a-dozen gondolas on the lake, whereupon the alderman rose and in the interests of economy and prudent buying moved an amendment. He objected to spending the people's money in buying half-a-dozen gondolas, on the grounds that "it was doubtful if the climate would suit them; and if they could," as he explained, "stand the climate, it would be more sensible and economical to buy a couple—a male and female—and very likely they would have some young ones."

The real advance in sanitation is far less than it ought to be, because, although in the abstract it is a thing every-one desires, in the concrete it is anathema, and so it will be until we have a Minister and a Board of Public Health, and every medical officer, surveyor, and sanitary inspector holds his appointment from the Board, and can only be dismissed from his post by the sanction of the Minister, and that every appointment shall carry with it an adequate salary. In sanitary matters at least no greater curse exists than the amount of decentralisation that already obtains.



## EXCESS WATER IN BUTTER PROSECUTIONS IN IRELAND.

AT Nenagh last week Sergeant Mullins, local inspector under the Food and Drugs Act, charged a number of farmers with adulterating firkin butter, sent in for sale in the Nenagh market, by the admixture of an excess quantity of water in its manufacture.—Mr. G. F. Corbett, solicitor, who appeared for the defendants, said he had only just received his instructions, and as the cases involved some very important and intricate questions of law he should ask for a week's adjournment. He had argued the question of what ought to constitute a statutable percentage of water in butter before the Nenagh magistrates some weeks previously, but he failed to impress them with his view of the matter. Since then, however, some very important cases were tried at Tipperary, and it was just worth mentioning that the results sustained his contention.—The Chairman: You are raising a question now, Mr. Corbett, which we have already had before us, and which we have pretty fully discussed. You are raising the question of what ought to constitute the standard percentage of water in butter.—Mr. Corbett: I will raise that question.—The Chairman: My view of the case is this. In the case of spirits there is, as we all know, a standard fixed by statute; in the case of milk and butter there is no standard fixed by statute, but if you look to the Act you will see that the analyst's certificate is to be taken as sufficient evidence of what ought to constitute a legal standard in all cases.—All the cases were adjourned except one, in which Mrs. Bridget Ryan was charged with having 18.46 per cent. of water in her butter, the illegal excess quantity being, according to Dr. Cameron's standard, 2.46 degrees.—Mrs. Ryan said she could not possibly have adopted greater care in the manufacture of her butter, and she usually got as good a price as was obtained for butter.—The Chairman said the only mode, as far as he could see, by which the accuracy as to standard could be arrived at was by having the analyst, Dr. Cameron, down on the witness table for examination. The magistrates did not believe that in this case there was any dishonest intent; they thought the offence would be met by a fine of 5s.; but if they believed there was any attempt to defraud, a fine of £5 would scarcely represent the penalty.—Mrs. Ryan said she could not make the butter better.—Those farmers whose cases are pending have arranged to get down Dr. Cameron, who is the county analyst for Tipperary, to give expert evidence.

At Cork on September 12th, Mary Buckley, 26, Shandon-street, shopkeeper, was charged under the provisions of the Food and Drugs Act by Sergeant Ralph, the local inspector, with having on August 18th sold butter containing an excessive percentage of water. Mr. Barry C. Galvin, solicitor, prosecuted, and Mr. R. Deyos, solicitor, defended.—Mr. Galvin said there were two summonses against the defendant. On the day in question Sergeant Ralph purchased 2lbs. of butter from the defendant, 1lb. from each of two firkins. Samples of these were submitted to the city analyst and the result was that one sample contained 21.60 of water; that it was deficient in fat when compared with the lowest quality of butter; that the water was excessive, and was adulterated to the extent of 3 per cent. The percentage of the water in the second sample was 21.31, or adulterated to the extent of 4 per cent.—Mr. Deyos said that Mrs. Buckley purchased the firkins from two respectable butter merchants connected with the market. One was third quality butter, and had been branded and passed by the inspector. The other was unbranded. The inspector wanted to give it a fourth quality, but the party acting on behalf of the farmer objected to take that quality, and consequently the firkin was put aside. It was afterwards purchased by Mrs. Buckley, who actually paid 3s. more for it than she would have to pay had it been branded. The defendant was a respectable woman. She had been nearly 40 years in the trade, and it would be pressing the case unduly against her if the Bench dragged out a conviction from the facts before them in the face of what had occurred recently and what was notoriously done in Manchester, when 22 per cent. was allowed to pass. The question of percentage was entirely unsettled yet, and it would be hard lines on the woman, before there was any standard fixed, if she should be made a victim. He asked the Court to say that there was no fraud of any kind or dishonesty intended by his client.—Mr. Mayne said the case was one of great importance to the butter market, and he thought the course would be to adjourn, and have the solicitor for the trustees present the next time.—Alderman Sheehan said he agreed with Mr. Mayne entirely. In the interest of the butter market he didn't understand one act being done to-day and another to-morrow. The defendant in this case, so far as he could understand, was innocent of the matter, and he thought the whole thing should be thoroughly threshed out and brought before the public. The last day a case of that kind was before the Court he made a statement which he found was wrongly reported. It was said that he stated if water continued to be put in butter sent to London, the trade would be wiped out. He did not know whether he said it or not, but he did not intend it. He did not give it as his own opinion, but as the opinion of people competent to speak on the subject. It was decided, without further discussion, to allow it to stand over until Saturday week.—Denis Bailey, 96 and 97, Shandon-street, was similarly charged, and it was agreed that the case should also stand adjourned until the same day.—Dr. Dunlea, solicitor for the defendant, said that in this case the firkins were branded in the market.—Mr. Galvin: Yes; and the butter in one of them contained 22.24 per cent. of water.

## LIGHT BEERS.

STRIKING evidence is afforded by the annual report of the Customs Department of the growth of the public taste for light beers. So great has been the increase in the importations of foreign beer that not only are statistics now published as to the amounts of duty collected, but even as to the number of samples tested. Of course, relatively to the quantity of British beer brewed for home consumption, the importations of foreign beer are insignificant, as in the one case the figures run into millions of gallons, and in the other into hundreds of thousands. But it is only since 1880, when the beer duty was imposed by Mr. Gladstone, then Chancellor of the Exchequer, instead of the malt tax, whose incidence was said to press heavily upon the agricultural classes, that these importations have so largely increased. The demand has doubled itself several times during this period, while the increase in the British brew has not done much more than keep pace with the normal increase of the population.—*Pall Mall Gazette*.

## MILK AND TYPHOID.

AT Paignton on September 13th, George Ware, a farmer, of Marldon, was summoned by the Totnes Rural Sanitary Authority, for whom Mr. T. W. Windeatt appeared, for having carried on the business of a dairyman without being registered. Mr. Windeatt pointed out the importance of the Dairies' Order and its requirement that a month's notice must be given to the authority, and that the dairy must be registered before the business can be carried on. Last May they learned that typhoid fever existed on defendant's premises, and the inspector found him suffering from the disease. The milk-selling business was being carried on in the house at the same time. Subsequently two of his children had fever. The inspector saw him in August, the business having been suspended for awhile, and told him he must be registered if he intended to carry it on, and gave him instructions. He also told him the premises were totally unfit for the purpose. Defendant carried on the business in spite of this warning, and he attended the authority on August 25th, and admitted three dates on which he had sold milk.—Mr. F. Tollitt (the inspector) and Dr. Johnson (medical officer) were called in support of these facts.—Defendant pleaded ignorance.—The Bench said it was a very bad case, and he had been distinctly warned. Milk-selling under such circumstances was spreading poison.—A penalty of £5, including costs, was inflicted, and defendant was warned that he was liable to further penalties if he continued the business while unregistered.

## THE "PALL MALL GAZETTE" ON THE ANTI-OPIMUM GANG.

THE *Pall Mall Gazette* says:—"The suspicion which was bound to attach itself, after the revelations of the Opium Commission, to missionary honesty in India will hardly be allayed by the attempt to 'martyrize' the defendants in the Prauteh, Mansukhlal, Hudson, and Dyer defamation case. This affair, which resulted in the heavy fining or imprisonment of two missionaries, arose out of a libel of quite unusual recklessness which appeared in the *Bombay Guardian*. The evidence showed that Mr. Prauteh, one of the authors of the libel, had been warned before the publication that his statements were wholly unjustified; in spite of this, and in the face of clear testimony, he adhered to his defamatory accusations. The result of the trial was welcomed throughout India, on the ground that, as the *Bombay Gazette* put it, 'this was the first case in which the amazing fictions palmed off on the good faith of the English people by a certain class of missionaries had been tested in a court of justice, and they had been proved up to the hilt to be based on barefaced and impudent lying.' A good deal of surprise was occasioned, therefore, by an attempt made a few weeks ago to give a decent complexion to the affair by a question in the House which represented the missionaries as victims of Government persecution. That no mistake might exist on this head, the full notes of the evidence taken at the trial have now been published by Mr. Rustom Pestonji Jehangir, a well-known authority on the opium question."

## CHECKING ADULTERATION IN ROTHWELL.

AT Wakefield on September 10th, Dan Stead, of the Stourton Hotel, Rothwell, was charged with selling adulterated whiskey. On the 7th of last month Mr. Talbot Kyle, an inspector under the Food and Drugs Act connected with the West Riding County Council, went to Stead's house and purchased half a pint of whiskey from the servant girl, for which he paid 1s. On analysis it was found to be 28.5 under proof, and diluted with water to the extent of 4.7, or 3.5 above the rate of dilution allowed.—Defendant, who said he was away on his holidays and had left the house in charge of his son, had £3 5s. 5d. to pay.—Squire Marshall, grocer, Stourton, Rothwell, was charged with selling adulterated coffee. On the 7th of last month the same inspector went to the defendant's shop and purchased ½lb. of coffee, for which he paid 6d. On being analysed it was found to contain 90 per cent. of chicory and 10 per cent. of coffee.—The defendant said he bought the coffee just as it was at 10d. per pound, and sold it at 1s.—Mr. T. H. Holdsworth, the chairman, told the defendant there was an outrageous proportion of chicory, and he would have to pay a fine and costs amounting to £2 14s. 11d.



## THE EPIDEMIC BY INFECTED MILK. CONDENSED MILK ADOPTED AT SHOREDITCH.

AT the meeting of the Shoreditch Board of Guardians on the 12th inst., Dr. Forbes intimated that an investigation was going on in the medical department of the Local Government Board, for the special purpose of discovering, if possible, the cause of the skin disease now prevalent at Shoreditch, St. George's East, and other poor law infirmaries in the metropolis. One of the Board's inspectors appointed for this purpose, Dr. Andrews, had sent asking that samples of any suspected milk might be sent to him. Dr. Forbes said he supposed the guardians would have no objection to his sending these samples.—Mr. Cox thought there would be some objection, because an important principle was involved. He did not at all object to the milk or anything else being analysed by a properly constituted authority, so that the analysis would be fair both to the Board and the contractors; but he did not think this was a good or proper method of procedure.—Mr. Clay said these samples were not asked for with any desire to prosecute, but simply for the purpose of making experiments to ascertain what the disease really was, or what was its cause.—Mr. Cox thought if the medical officer sent under proper conditions any sample of milk which he had reason to suspect to the analyst at King's College, that would be the proper thing to do.—Mr. King: You mean the professor to whom we paid ten guineas?—Mr. Cox: Yes, and I think it was well laid out.—Mr. Clay: It is believed that some contamination is going on, and the cause can only be ascertained by a very elaborate process.—Dr. Forbes: Yes, that is so. Acting under the instructions of the Board, I sent notices to the Local Government Board as soon as the outbreak of skin disease occurred. I do not think you can deny the samples asked for by the Local Government Board.—Mr. Little: But we are not having the suspected milk now?—Dr. Forbes: Yes, we are. I reported that the milk supplied to the infirmary was inferior. It was referred to the House Committee, but no action was taken in the matter.—Mr. Cox: Let us have fair play, that is not correct. The guardians, I contend, have taken a very important action in this matter. The fact that they have spent ten guineas in analyst's fees show that the guardians have taken action.—Dr. Forbes: I am speaking after that analysis, as to what has transpired since. I suggested that you should stop the supply of ordinary cows' milk for use as a beverage and try condensed milk. Ordinary cows' milk is still used for tea and coffee and for making puddings, but condensed milk is used by those who take it as a beverage. And you need not be afraid of the expense, for the condensed and the ordinary milk are about alike in that respect.—The Rev. J. Cartmel Robinson: I do not think any of us are afraid of the expense, but several of the guardians thought the condensed milk would not be so good; but I do not think the guardians took any particular action after the first inquiry.—Mr. Cox (pointing to the statistics): Here are 190 tins of condensed milk reported as having been used during the past week.—Rev. J. Cartmel Robinson: Then I think we ought to take some action, because I believe we are nearly all against the condensed milk being used.—The Chairman: It is very much used all over London, and the doctors recommend its use to mothers in preference to the ordinary cows' milk.—Dr. Forbes: It is far superior; I have for months taken nothing but condensed milk. It is far superior to the ordinary milk, and I have not found anyone in the infirmary unable to take it. It is alright if you have the proper brand.—Mr. Clay: It was not on account of the poverty of the milk that complaint was made; but in connection with this skin disease it was believed the milk was contaminated in some way, that it had germs of disease in it which we were told had no regard to the quality of the milk. On the contrary, the particular sample submitted to the analyst was rather superior in quality. In consequence of that Dr. Forbes asked on August 22nd that condensed milk be procured till the present contract expired.—The Chairman: No milkman or farmer would know that the milk was contaminated.—Mr. King: Has there been any difference in the skin disease during the three weeks you have been using the condensed milk in the infirmary.—Dr. Forbes: Yes, it is not so prevalent now.—Mr. King: How many cases have you under treatment?

—Dr. Forbes: There are a dozen cases altogether, and one patient is dying, a person about fifty years of age, who had been suffering three weeks or so.—Rev. J. Cartmel Robinson moved that the samples be sent as required by the Local Government Board, observing that it would serve the interests of the public to know whether or not the milk was contaminated.—Mr. King seconded.—Mr. Cox: I protest against this semi-private method of testing the quality of the milk. The mode of procedure is laid down by the law.—The Chairman: It is simply to get scientific evidence as to the skin disease. The proposition that the samples be sent was then put and carried.

The *British Medical Journal* says:—"Suspicion fell upon the milk, some of which has been analysed by the public analyst, and some submitted to bacteriological examination by Professor Crookshank. Excepting, however, the discovery of certain putrefactive organisms by Professor Crookshank, no further light seems to have been thereby thrown upon the matter. The rapid recession of the outbreak, following so quickly upon Dr. Bowlan's withdrawal of the ordinary milk and substitution of condensed milk, which we reported last week, is strongly suggestive of the milk having had some influence in the production of the particular manifestation of the disease which has given it the provisional name of epidemic exfoliating dermatitis, but that it is not the sole etiological factor seems very clear, as also that the dermatitis is not the sole or even the main pathological condition. We understand, however, that the medical officers of the Local Government Board are preparing a report on the subject, which may throw some further light upon it; in the meantime, the use of the ordinary milk has been stopped in the workhouse as well as the infirmary.

## SELLING WATER AT WHISKEY PRICE.

A CORRESPONDENT writes: "I wish you to be good enough to make public in your columns the desirability, in fact absolute need, for alteration in the new Act, which shall prevent the evasion of the Act by publicans who place a printed placard in their bars to the effect that "All spirits sold in this establishment are diluted." Of course they are diluted; the law permits them to be so, but not below a certain strength. Few of the publican's customers see the placard, especially if cunningly placed amongst advertisements and play-bills, and to those who do not see it, it has no meaning."

The barefaced manner in which that Act is evaded by publicans certainly requires to be shown up before the Select Committee. For instance, last week affords amongst a host of cases the following:—At the Houghton-le-Spring Petty Sessions on September 13th, Michael Elliot, of the Black Horse, Easington-lane, was charged at the instance of the County Council inspector under the Food and Drugs Act, with selling a pint of whiskey on August 8th, adulterated to the extent of 14·7 per cent. The inspector proved the purchase of the whiskey, which, upon being analysed, was found to be adulterated as stated.—Mrs. Elliot, wife of the defendant, stated, in answer to the Bench, that her husband was ill in bed.—The Bench characterised the offence as a very serious one, but said they would take a merciful view, seeing the defendant was at present an invalid, and would only inflict a fine of 20s. and costs, the licence not to be endorsed.

## SUNDAY MILK.

AT Handsworth Police-court on September 14th, William Perkins, milk seller, Holyhead-road, was summoned at the instance of Mr. Harold Van Tromp, inspector under the Food and Drugs Act, for selling milk from which its fat had been abstracted. Mr. J. S. Sharpe defended. On Sunday morning, August 19th, Inspector Toye purchased a pennyworth of milk from the defendant who was serving customers in Albert-street. A sample of the milk afterwards submitted to analysis was found to have had 30 per cent. of its original fat abstracted.—Esau Watts, milk seller and landlord of the Island beerhouse, Holyhead-road, was summoned for a similar offence on the same date. Inspector Toye purchased half a pint of milk from Ellen Gee, defendant's housekeeper, who was serving in the back kitchen. A sample subsequently submitted to analysis was found to be deficient of 25 per cent. of fatty matter. Defendants were each fined 10s. and costs.

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### FIFTY PER CENT. MARGARINE IN LAMBETH PURE BUTTER.

OLIVER BENSON, of No. 262, Old Kent-road, appeared on September 13th at Lambeth, to answer a summons, taken out by Mr. John Edwards, chief sanitary inspector to the Vestry of St. George-the-Martyr, for having sold butter not of the nature, substance, and quality of the article demanded by the purchaser.—Mr. Birt, solicitor, appeared in support of the summons.—There was a placard outside the defendant's shop bearing the words, "Pure butter, 10d. per lb." The inspector went inside and purchased half a pound and submitted it to the public analyst. The certificate of the analyst was put in and showed the "butter" to contain 50 per cent. of margarine.—In answer to the summons the defendant said the inspector should have been aware that the market value of pure butter was far above 10d. per lb. There was absolutely no pure butter to be bought on the market at that price.—Mr. Mead: You had a poster outside your shop, "Pure butter, 10d. per lb." Was it pure?—Defendant: Not absolutely pure.—Mr. Mead: Then why did you put up "Pure butter" when you knew it was a lie?—Defendant: I didn't put it up as a lie. I certainly knew it was not pure butter. The public do not expect to have pure butter at 10d. per lb.—Mr. Mead: What did you put it up for if people won't believe it?—Defendant: We put it up to advertise it?—Mr. Mead: Of course you did, to mislead people. You are making a misrepresentation to poor people, and getting them to pay for an article as butter when you know perfectly well it is not butter. You must pay a fine of £10 and 12s. 6d. costs.

### WAS IT THE RAIN?

At Chertsey Petty Sessions, John Coombes, dairyman, of Horsell, was summoned for selling skimmed milk with 14 per cent. of added water, and new milk with 11 per cent. of added water, at Horsell, on July 22nd.—Edwin Bath, a dairyman living at Woking, said he had been in the habit of receiving 52 quarts of milk per day from defendant. On July 22nd defendant's son delivered eight quarts of skimmed milk to witness near Horsell Grange. Witness was present when Mr. Martin, the county inspector, took a sample of the milk.—Mr. Charles J. Martin, the county inspector, said that by arrangement with the last witness he went to Horsell early on the morning of Sunday, July 22nd. He saw a cart belonging to defendant in charge of his son, Edward Coombes. As the cans were being transferred from one cart to the other witness took a sample of the skimmed milk. The public analyst had since certified that the sample contained 14 per cent. of added water.—Similar evidence was given as to the new milk, but in that case the certificate stated that there was 11 per cent. of added water.—Defendant denied having added any water to the milk, but said it had been raining in the night and some of the rain might have got into his churns.—Mr. Martin said the reason for this prosecution was that Bath had been convicted before the Guildford Bench for selling adulterated milk, which he stated he had obtained from defendant.—The magistrates said they would have dismissed the summons against Bath if he had had a written warranty.—The Bench imposed a fine of 40s. and costs in each case.

### FLIES AND CHOLERA.

DR. J. G. SAWTCHENSKO recently conducted a series of minute experiments, the result of which has been to demonstrate that the comma bacillus, to which cholera is due, may be propagated and disseminated by means of flies, since the microbe when swallowed by a fly not only resists the action of the digestive fluids of the insect, but multiplies in its intestinal canal. This same fact has been observed as regards the vibrios of Metchnikoff, and in relation to both the ordinary small fly and the larger species. Grassi showed, long ago, that the eggs of certain parasites, particularly tapeworms and oxyuris, may pass through the intestinal canal of a fly, and may thus be brought in contact with

the food. Dr. Joseph, of France, has observed the microbes which give rise to cholera nostras in the blue fly and in the golden fly (*Lucilia Cæsar*).

The immense importance of these facts is apparent when we consider the fact that a single microbe, when falling in a suitable medium, may give rise to an infinite number. These facts are sufficient to explain the observation frequently made in outbreaks of cholera, that the disease makes its appearance at many independent foci, and not infrequently it is utterly impossible to trace any direct connection between the early cases. This was notably the case in the last outbreak in New York City.—*Modern Medicine.*

### HOW SPURIOUS LAGER BEER IS MADE IN AMERICA.

Now, gentle reader, to start at the beginning. Here is a large room with a stone floor, and in one corner a huge iron tank. Into this tank the raw barley is thrown and steeped in hot water for twenty-four hours. It is then spread over the floor in heaps, and men are kept turning it continually with wooden shovels. As soon as the germ develops and just before the leaf is ready to burst out, it is shovelled into an elevator, by which it is taken to the drying room.

This is the drying room. You see the floor is made of wire netting with fine meshes. Just under this are furnaces, and in the centre of the square ceiling arises a square tower through which the steam and hot air escapes. This is the square tower seen on every brewery where they make their own malt. It is necessary that the malt be dried in order that it may not sour, as it is only made during the winter season, and enough must be stored for summer use. The process of malting develops a ferment in the barley, called distaste, which has the power of changing starch into sugar. The dry malt has a pleasant taste, and you had better fill your pockets for future munching.

The next scene is a hot furnace room containing several huge mash kettles. These are of copper surrounded by steam jackets through which steam is introduced for heating. Here the brewing takes place. Malt is put into kettles with pure hydrant water, and kept at a temperature of 120 degrees for a few hours. Here the so-called adulteration is introduced. In the process of malting, more distaste is developed than is necessary for the conversion of the starch contained in the barley, and as it will convert much additional starch, *raw starch, rice, and raw cereals containing the substance are here mixed with the malt.* As all starch is the same, and as it is all converted into the same kind of sugar, there is no reason why the use of these materials is not perfectly right. The popular idea that poisonous compounds, canal water, etc., are used is all a mistake. Great cleanliness is observed throughout the whole brewery, and on that score there is nothing cleaner than beer. When the brewing process has continued the proper length of time (which must be learned by long practice), the liquid is turned into the tubs having double bottoms, the upper of which is perforated copper, and serves to strain all the malt from the liquid which now has a pleasant sweet taste. After being strained, it is pumped back into the mash kettle and the hops are added. Before it was almost white; now the yellowish tinge is imparted to it, along with the bitter taste. The hops used come from California, Washington, and New York in America, and Bavaria and Bohemia in Europe. The European hops have a much stronger flavour than the American ones.

Now this is the first cooling room. The beer is brewed, but contains no alcohol—that is, it is unfermented. A large pan, forty feet square and eight inches deep, receives the strength fluid from the tubs where the hops are strained out. It is pumped into this pan at one end, and passes out as rapidly at the other, the object being to expose to a large surface for evaporation and lowering the temperature slightly before the more rapid cooling is given it.

Just below the pan in another room are a series of copper pipes placed horizontally, one on top of the other, somewhat in the manner of a huge steam heater. Through the upper rows of these pipes cold water is run, through the lower ones a freezing mixture

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To make CHAMPION'S Mustard, it is essential to use only the finest Mustard Seeds, inasmuch as chillies or ginger cannot be employed to produce pungency, nor can turmeric be utilised to secure high colour; consequently ripe and perfectly-coloured Mustard Seed only can be used.



of brine. The beer is allowed to trickle down the outside of these pipes, and by the time it reaches the pan at the bottom has been lowered to 40deg. Fahr.

It is now ready for fermentation and disappears into the cellar through a copper pipe. Now we enter the shipping department. Here are waggons bringing in empty kegs and hauling off full ones. An empty keg is partially filled with water, placed on a machine, where it is rotated rapidly against a large brush, while a stream of water is kept playing over it. From here it is taken to a machine which rinses it alternately with hot and cold water. A lighted taper is then introduced, while the interior is examined to see if any pitching is needed. Thus tested they are ready for use again.

The furnaces make this room uncomfortably warm; but button up your coat, for you will soon freeze. Yes, this is a miniature Iceland. If Milton's vivid description of Hades is accurate, the habit of temperance people of applying that term to breweries is very appropriate, for here one is hurried from fiery heat to icy cold in a minute.

The cellar is forty feet deep and dark as a coal mine. The feeble rays from the candles glance over casks of beer and pierce endless galleries which remind one of the old dungeons of the Middle Ages. Under two whole blocks this subterranean store-house extends. From the stone arches here and there project long stalactites, while the pipes which conduct the freezing mixture are only two inches in diameter, but coat upon coat of frost has accumulated until they look to be a foot in diameter. Every joint, every screw is faithfully enlarged. The piercing cold prevents it from getting too imaginative, however. Let us see what is here, and get out.

This beer from the cooling apparatus is received into large open wooden vats, where the fermentation takes place, occupying about fourteen days. It is then stored in air-tight tubs and allowed to stand, in well regulated breweries, for six months. There is no fermentation about it during this stage.

Sometimes before being put on the market it is transferred to heavy casks, and some fresh, unfermented beer is mixed with it in order to make it foam. The foam is produced by the generation of carbonic acid gas. As the casks are entirely filled, there is no room for foam, but an enormous pressure is exerted on the sides of the casks by the gas with which the whole mass is charged.

From these casks the kegs are filled. Now it is evident that, were the beer simply drawn off, the kegs would be filled with foam, but this obstacle is done away with in a very nice manner. When it is desired to tap a cask, a hose is attached to the top bung-hole and another to the faucet. Through the first, compressed air is pumped into the cask, and the beer is forced into the kegs without a particle of foam. The men who work in this region of ice dress the same the year round, as they are independent of the weather department.

This low temperature may be produced in two ways—by direct expansion, that is, by forcing ammonia gas through the pipes, or by passing chilled brine through them.

The wages of brewers range from 60 to 100 dols. per month, and as there is no trade to be learned except in a few departments; it is a very good business for a man who is required to do manual labour for his sustenance. About 1,500 men are engaged in the breweries of this city.—*American Bottler.*

### MILK ANALYSIS DIFFICULTIES.

MR. W. F. LOWE, the county analyst for Flintshire, in his quarterly report of samples submitted to him, suggests with reference to the adulteration of milk that the inspectors be empowered to take a sample for confirmation direct from the cows, for it would either clear the milk-seller of any intention of fraud, or else enable the inspectors to obtain a conviction.

### NEW WOMANISM AND MARGARINE.

AT the West Ham Board of Guardians meeting last week a Mrs. Thompson called attention to the quarterly House returns, which described margarine as butter. Margarine, she went on to say, was also described as butter in their advertisements for tenders, and she thought they ought not to deceive the public, but tell them that the inmates had margarine, and not butter. The Chairman: Oh, I don't think it matters much. We are told, "What's in a name?"—The matter passed, Mrs. Thompson remarking that she should move a resolution.

It is a pity Mrs. Thompson and the members who supported her foolishness do not take the trouble to learn what margarine really is. Its discovery, whatever be the damage it may have done to the interests of dairy farmers, has been a great boon to the poor, as it enables them to get an absolutely wholesome and appetising butter substitute at about half the price of genuine butter. Margarine as an article of human consumption is not only good enough for paupers, whether they inhabit West Ham workhouse or Hampton Court Palace, but has no doubt been eaten scores of times with keen relish by Mrs. Thompson and her "hear-hearers." It is only when it is sold as butter at butter price that any honest objection can be taken to margarine, but that is not an argument of any value against the article itself as eaten by the public. But the new woman, ignorant and craving at any cost for notoriety, has not time to amass knowledge enough to enable her to know, even in that which ought to be her especial province—careful housewifery—what she is talking about.

### IMPORTANT MASTER AND SERVANT CASE UNDER THE FOOD AND DRUGS ACT.

AT the King's Heath Police-court, on September 14th, two summonses were heard against William Norris, grocer and tea dealer, of the Bournbrook Stores, one, under the Food and Drugs Act, charging him with selling as butter a substance containing 25 per cent. of foreign fat, and another, under the Margarine Act, charging the defendant with having sold margarine which was not labelled as such.—Mr. Pritchett, who appeared for the defendant, applied under Section 5 for permission for Norris to swear an information against his manager, Richard Hall, as the offender in respect of the second summons. The learned counsel pointed out that Hall was present in court. He had the sole management of the business in question. He was prepared to accept service and waive any objection to the summons being heard at once.—The magistrates consented, and the necessary information was then sworn to by Norris.—Evidence of selling the margarine was given by a constable who called at the stores at eight o'clock on the morning of the 10th ult. He asked for half a pound of butter, and Hall inquired, "The shilling or the fourteen-pence?" Witness replied, "the shilling will do," and Hall then served him with half a pound. This was analysed in the usual course, and was found to contain 25 per cent. of foreign fat. There was no label on the margarine, and when witness pointed out the fact Hall said he was just cleaning up the shop. The shop was being cleaned up. Mr. Pritchett contended that even if an offence was committed the defendant was not liable for it. He owned several shops, each of which was under a manager, and there was a travelling superintendent to go from shop to shop to look after the various businesses. The defendant left the whole thing to him. In Stone's "Justice of the Peace" it was stated that "a servant who sells on behalf of his master is liable to be convicted. Whether the master is also liable depends on whether he has a guilty knowledge." Mr. Norris could have had no such guilty knowledge. It was evidently more convenient, and in the interests of justice, that the servant who committed the offence should be dealt with. The ordinary principle was that a master was not responsible for the criminal act of his servant, and in the case of *Keerley v. Tyler* Mr. Justice Charles said there was nothing in the Food and Drugs Act of 1875 which prevented the applicability of the ordinary principle laid down as regards the criminal liability of the master for his servant.—The magistrates' clerk (Mr. Colmore) said the same point was raised in Birmingham and elsewhere, and was overruled.—Mr. Pritchett: There are the reported cases on the subject. There was no reason why the manager should not be summoned.—The Magistrates' Clerk: The master is responsible for the act of his servant.—Mr. Pritchett: Yes, where the master takes a daily part in the business.—The Magistrates' Clerk: Defendant should not have so many businesses that he cannot attend to them.—Mr. Pritchett: I take it a man may have as many as he likes.—The defendant Norris spoke to the system under which his eight grocer's shops were carried on. He took no personal part in the management. The Bournbrook business was managed by Hall, at 30s. a week, under an agreement by which Hall made himself responsible for any violation of the Food and Drugs Act and the Margarine Act.—Superintendent Wasley: You receive all the profits of the shop, don't you? Defendant: There are no profits.—Defendant and his superintendent manager both stated that they gave Hall specific instructions to keep within the law.—In his evidence Hall explained that the sale of the margarine for butter was due to a mistake caused by the labels having been taken away to be washed. The error was entirely due to his own oversight.—In cross-examination by Superintendent Wasley, witness said that he quoted prices according to the class of his customer.—After the magistrates had consulted together, Mr. Lane said the Bench did not think they would convict. Of course the chief constable could have a case stated if he desired.—The second summons was then proceeded with. That against Norris was dismissed, and Hall was fined 40s. and costs.

NAMING STREETS AFTER MEDICAL MEN.—The Parisian Municipal Council has named three streets in that city after Charcot, Trélat, and Trousseau.

### CONTRACTS FOR DISINFECTANTS.

### IMPORTANT NOTICE!

To Local Boards of Health, Vestries, and Sanitary Authorities generally.

THE SANITAS COMPANY, LTD., beg to give notice that they have reason to believe there are several unprincipled firms who are offering for sale more or less worthless and fraudulent imitations of the well-known "Sanitas" Disinfectants.

The various "Sanitas" Disinfectants are all manufactured by scientific processes which are protected by Letters Patent, and in order to guard against the nefarious practices above referred to, it is respectfully suggested that all contracts for "Sanitas" Disinfectants and Appliances should be entrusted to the Sanitas Company, Ltd., who are the sole manufacturers, or that a stipulation should be made making it obligatory upon contractors to supply the goods in our original sealed packages.

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### THE LARD WARRANTY GAME.

PHILIP ROSSER, grocer, West-cottages, Penarth, was charged at the local police-court on Monday with selling lard in an adulterated state. Mr. G. David, solicitor, Cardiff, defended.—Inspector Rutter gave evidence in support of the charge, but Mr. David maintained that defendant, having been supplied with a warranty of purity by the firm who supplied the lard, was not legally responsible.—The Bench, therefore, dismissed the case.

### FIFTY PER CENT. CHICORY SOLD AS COFFEE.

AT Alfreton Petty Sessions, on September 14th, Thomas Sabin, grocer, of Prospect-street, Alfreton, was charged with having sold coffee which was adulterated with 50 per cent. of chicory, at Alfreton, on August 21st.—Colonel Shortt proved that defendant's daughter sold coffee to a customer which the public analyst found to convey 50 per cent. of chicory. The coffee was not labelled as containing chicory, and nothing was said about the coffee being a mixture when it was purchased.—Defendant, who pleaded ignorance of the law, was fined £1 11s., including costs.

### DRUG ADULTERATION PROSECUTIONS.

AT the Skipton Petty Sessions on Saturday, before Mr. J. Coulthurst and other magistrates, Arthur Harrison, in the employ of A. E. Crump, chemist, of Skipton, was fined £2 and £1 2s. 9d. costs for selling 2oz. of bismuth lozenges deficient in bismuth.—Edwin Fisher, in the employ of the Skipton Drug Company, was fined £2 and £1 2s. 9d. costs for selling  $\frac{1}{2}$  oz. of bismuth lozenges deficient in weight and in bismuth. The same defendant was also fined £2 and £1 3s. 2d. costs for selling a box of seidlitz powders which proved to be deficient in weight.—Jane Alderson, grocer, of Skipton, was fined £2 and £1 2s. 9d. costs for selling 3oz. of paregoric which was destitute of opium. The same defendant was also fined £2 and £1 2s. 9d. costs for selling 2oz. of tincture of rhubarb which was deficient in extractive matters, and also destitute of saffron, an important ingredient. The various samples in these cases had been analysed by Mr. A. H. Allen, the West Riding analyst, and the prosecutions were taken under the superintendence of Mr. Arthur Randerson, inspector of the Skipton district under the West Riding County Council.

### SUPPRESSING ADULTERATION IN LEICESTER.

AT the Leicester Borough Police-court on September 18th, before J. Stafford, E. Kell, and J. B. Everard, Esqrs., Rowland Moses, farmer, of Quorn, was summoned for selling milk adulterated with 4 per cent. of added water to the Farmers' and Cleveland Dairies' Company, Limited, on August 28th, 1894.—Mr. J. Storey, town clerk, prosecuted.—Tom Bent, an inspector in the employ of the Corporation, said he met the seven o'clock train from Barrow on the morning in question. It brought a can of milk consigned by defendant. He took about a pint out of the can and divided it into three parts, one of which he handed to the borough analyst, another he sent on to the defendant, and the third he kept. The certificate of the public analyst stated that in his opinion the milk was adulterated with 4 per cent. of added water.—The Chairman: Is the analyst here to-day?—Mr. Storey said the certificate was evidence.—The Chairman: You don't know upon what basis this is taken, do you?—The Town Clerk: No, I don't.—John Willis, guard of the train in question, said that the milk was not tampered with after it was put into the train.—George E. Sheppard, the general manager of the Farmers' and Cleveland Dairies' Company in Leicester, produced the contract with defendant, who undertook to supply pure genuine new milk, unadulterated, and with all its cream on.—Dr. Priestley was called, and in reply to a question as to the standard on which he had based his analysis, said that he had taken the very lowest possible. He could not say there was not 20 per cent. of added water. He was sure there was 4 per cent., and there might have been 20 per cent.—Defendant, who pleaded not guilty, said he did not water milk himself,

nor did he know anything about it. But on receiving the sample he inquired of his men. He bought a cow the previous Thursday at Loughborough, and she turned out a kicker, and the men told him that as the cow upset the milk two or three times they added a little water to it. He was very sorry, and would not have had it happen for £50. He employed four men and a boy, and he had given the man who watered the milk notice to leave.—No previous complaint had been made against defendant, who was fined £3 3s. and costs, or a month.

John Fowler, 20, Cromwell-road, shopkeeper, was summoned for selling adulterated butter on August 21st, 1894.—Mr. Storey, town clerk, prosecuted.—Thomas Wells, an inspector, gave evidence that he asked for a pound of butter at defendant's shop, for which he paid 1s. 2d. He submitted it for analysis by Dr. Priestley, after taking the customary formalities, and the certificate produced stated that it was adulterated with 85 per cent. of foreign fat.—Defendant's wife pleaded not guilty. She said the "butter" was purchased at a well-known establishment in the town.—The Chairman: It is an article worth 5d. or 6d. at the most, and you charge the poor people 1s. 2d. for it. Was it sold to you for butter?—Defendant's wife said she did not ask that. She did not think of such a thing. She had to send for it.—The Chairman said this was a serious matter. If defendant had been in a different position he would have been fined a very heavy sum indeed. As it was it would no doubt be a heavy fine for him to pay, but the magistrates were determined to protect the poor people.—Defendant was fined £5, or a month's imprisonment.

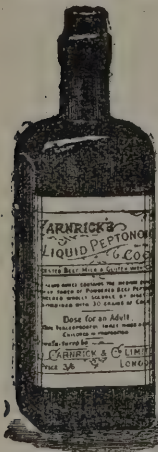
### THE SELECT COMMITTEE ON ADULTERATION.

#### CONTINUATION OF COL. HAYWARD'S EVIDENCE

XI.

(Continued from page 296.)

THEN you think that the adulteration of foreign butter keeps down the price of English butter?—I said that the adulteration of butter keeps down the price of English butter.—Not of foreign butter particularly?—Any butter that is adulterated must keep down the price of butter, whether it is foreign butter or whether it is English butter.—Is it not a fact that the merchants deal mostly with the foreign butter manufacturers because, owing to the butter passing through factories, which assimilate all the various kinds coming from farms, they can get a regular supply; whereas, if they buy it in England, as there are no factories or practically very few, they never can get a regular supply, as the butters vary greatly in quality?—Our large dealers demand absolute uniformity; now absolute uniformity is impossible with pure butter; you can get very near uniformity, but absolute uniformity at all times of the year, which you may say our large dealers demand, is impossible with pure butter.—But what I meant was this; is it not much easier to get very much more uniformity from dealing with a foreign country which passes its butter through those factories where the produce of a large tract of country is amalgamated, than to buy it in the English market towns, where it passes through no factory at all?—The blending house butter is of course more uniform; but there is also a great facility and a great temptation when you mix butter, to mix something else with it.—But in this country we do not practically have any system of blending?—No, we do not have a blending house, and I hope we shall not.—You think that that would be adverse to our butter interests?—I do not think you would get the best butter; you get a uniform butter no doubt from a blending house.—But is it, or is it not the fact, that the large butter merchants cannot deal with the English farmers (I am speaking on general principles) because they are not able to get uniformity in the same way as they can when dealing with Denmark, or other places abroad, where there are blending houses?—There is no doubt that it is a difficulty. It is impossible to get an absolutely uniform article of butter from various different makers; but it is quite possible to get a practical uniformity which is quite good enough for the English



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people. But the big dealers have boycotted English butter so much that the people in London hardly ever get the opportunity of tasting English butter.—But I do not suppose that any merchants boycott any class of producers for any reason except business reasons?—I will give you an instance of that. I went to one of the best-known West End London butter merchants, and I took him a sample of my own butter, and I said to him, "Would you be prepared to take any butter from me?" He looked at it, and said, "I should be obliged to give that away; none of my customers would touch it; they will not eat anything but Brittany butter." I give you that as an instance to show you the popular view.—That was in London, you say?—Yes, with one of the largest dealers in London.—The same thing would not occur probably in Liverpool, Manchester, Birmingham, or in one of those large provincial towns; or do you think it would?—I have never tried yet. I took this to one of the best known men in London, and that was his answer to me: "I should have to give it away."—Have you overheard it said in the country districts that there is not a good sale for what we in London should call the best butter, because it is too rich?—No; but you want different butters for different parts of the country.—That is what I mean?—For instance, if I was sending butter to London, I should make it differently from what I should if I was going to send it to Liverpool. In London they like butter practically without salt, rather an insipid butter. In the North of England they want butter with more taste to it.—Do you know that in the North of England what we should buy as the best butter in the West End of London would probably have little or no sale at all in north-country towns?—Very likely.—For that reason?—Yes.—There is one question that I did not quite understand. I gathered that your association thought that a town council or corporation did not carry the Adulteration Acts into force to the extent that they ought to do?—That is so.—The town councillors, for instance, would be elected by working men, and consumers as a general body, who would be interested, of course, in having pure goods; is not that so?—They ought to be.—I mean to say that they are, as a matter of fact, elected by the bulk of the voters in the ward of their town, who would probably be working men all of them?—And small shopkeepers.—Then the leaders of opinion anyhow in those wards, the people who would make speeches and conduct these elections, would as a rule be small or large shopkeepers in the town?—Yes.—And they, of course, would not be inclined in their speeches or when putting forward local politics before the electors, to allude to the subject of adulteration, because it is a matter which would only affect their own particular body; is it not so?—That is rather difficult to say.—I mean that the bulk of the leaders of opinion in the ward, of a town which elected a town council, would be tradesmen?—Yes, tradesmen.—And consequently not very likely to put the question of adulteration to the fore?—No, I should think not; I have never seen it mentioned.—Do you not think, therefore, that the town council for that reason is naturally a body that would be not very anxious to press the adulteration question?—I do not think they are.—And you are decidedly of opinion that outside Government inspectors of some sort should be appointed to obviate that?—I think they want outside influence brought to bear upon them; they always express themselves as very anxious to carry out the Acts, but they do not do it.—You said that your association formulated 12 recommendations on the subject of adulteration, did you not?—No; I said that the Central Chamber of Agriculture formulated them (it was not our association), in connection with the British Dairy Farmers' Association, of which I am a member.—Can you say from your experience on the subject where margarine is chiefly used in a large quantity?—Where it is chiefly mixed with butter, do you mean?—Either margarine itself, or butter adulterated with margarine?—In our towns.—In what sort of places?—Places where they sell butter.—Is it not used chiefly in restaurants and certain classes of hotels and eating-houses?—I should think it was very largely used in such places.—Where it is only seen spread on bread?—Of course it is very difficult to say what you are eating when you get a little piece of something or other.—Do you not think that those are the chief places where either margarine or pure butter largely adulterated with margarine is used?—I think it is very likely where it is used, but it has to be bought from somewhere.—That is when you want to test it for adulteration; but the places where it is used, I believe, are in these restaurants, certain classes of hotels and eating-houses?—Yes, I think it is very likely.—And if you coloured margarine with any peculiar colour, that would put an end to the cheap food that they can provide in those places?—If it was coloured pink I do not think that people would eat it.—That is what I mean. These restaurants and eating-houses provide tea and bread-and-butter at extremely low prices, of course; do you think that the bread-and-butter is bread and margarine?—I daresay.—And if the margarine were coloured pink it would put an end to that business at those prices?—Very likely.—On general principles you are against colouring margarine with any particular colour?—As a producer, I should say most certainly, coloured pink or any other colour; but as a practical man I do not think it is a practical suggestion.—Only one other question. Have you any knowledge as to how many factories of margarine there are in the country?—No; I do not know; I believe they are on the increase.—Do you think it is mostly made abroad or in England?—A good deal is made in England at the present time.—And is the manufacture increasing?—I think that the production of it is increasing in England.—Mr. Kearley: Can you give us the

name or the locality where there is a margarine factory in England?—There is one, I believe, just put up on the Great Western line within the last few weeks.—Mr. Bolitho: May I ask whether you have any knowledge of the quality of butter being made more uniform by the use of factories; would you be surprised to know that the price of butter has been levelled upwards by the use of factories?—That might be. You will get medium butter from factories, and the general price might be levelled up; but the very best butter you get from private dairies.—Would you be surprised to know that in a certain locality where the price of butter was extremely low, by the use of factories it is now as high as the price of best butter in London?—I daresay, if the quality improved; very likely the quality was very bad before.—Mr. Kearley: On this question of factories, will you define what you wish us to understand as a factory. You mentioned the blending-house and the factory. Do you draw a distinction between the two?—Yes, I do, I call a factory a place where milk or cream is dealt with and made into butter or cheese. I call a blending-house a place where butter is collected and mixed together, and coloured, and made up.—Then a factory is a creamery where milk is separated by the centrifugal process?—Yes.—Do you say that these factories do not make uniform butter?—No, I do not say that.—I beg your pardon. Do you say that that is the most uniform butter that is made?—I should think it would be; but when I said that absolute uniformity is impossible, I meant to say by that that you cannot make the same butter in June that you do in December.—That would apply to all butter, would it not?—It would not apply to a mixed butter.—Butter mixed with margarine and other things, you mean?—No, it would not apply to that.—Have you any idea of the total production of butter in England as a commercial quantity?—No, I cannot give you figures off-hand.—Mr. Yerburch: I believe it is a fact that Lord Vernon has a butter factory?—Yes, for butter and cheese.—Do you know from your experience the price that the butter made at Lord Vernon's factory commands in the market?—No, I do not know what price it commands.—Mr. Jeffreys: Just a question about colouration.—It would be wrong to say that all English butter is coloured, would it not?—Yes, certainly.—Butter made from rich milk from Jersey or Guernsey cows is naturally coloured, of course?—Yes, when I said that butter is coloured I meant in the winter and on particular land. Some land, of course, will give much darker coloured butter than other land.—But it would be wrong to say that all English butter is coloured, as somebody has suggested?—Yes, a great deal of English butter is never coloured at all, but in the majority of pastures when you have your cows in the house in winter, and fed on roots, you cannot get yellow butter.—As it would be impossible to prevent the colouration of foreign butter, it would be very unfair to prevent the colouration of English butter, would it not?—Yes.

MR. GEORGE EMBREY: Examined.

Chairman: You are Public Analyst for the County and City of Gloucester?—Yes.—And you are also District Analyst under the Fertilizer and Feeding Stuffs Act, 1893.—Yes.—And are you a Fellow of the Chemical Society, and Analyst to the Dairy Produce Defence Association, the Sanitary and Economic Association of Gloucester, the Barton Regis Sanitary Authority, and the Horfield Local Board?—Yes.—And you were lately a member of Council of the Society of Public Analysts?—Yes.—How long have you been a public analyst?—Ten years.—And you have made during that time how many analyses of butter and milk?—About 3,000.—You have an opinion that the amount of adulteration is much greater than that which has been detected, have you not?—Yes.—In what proportion would you say?—I should say that about 25 per cent. of all the butter which is sold is adulterated.—And of that how much is detected?—Not more than 10 per cent. of the whole.—And you think that an alteration of the law might stop this adulteration?—Yes.—How would you alter the law for that purpose?—First, by giving greater latitude to the inspectors who make the purchases.—What do you mean by greater latitude?—It is impossible for a man to purchase adulterated butter, at least, in the cities and towns with which I am acquainted; the vendors recognise at once that he is an inspector, especially if he be a police-constable disguised.—So that you mean by greater latitude opportunities of employing other persons rather than the regulation officials?—Yes.—Then you would have samples of butter imported into this country analysed on landing?—Yes.—So that we should actually know what was sent in?—Yes.—And if that were done, you think it would diminish the amount of spurious butter?—From our experience with the tea, I have no doubt that it would.—Then, as to the local authorities, is there anything with regard to their action that you would suggest?—Local authorities should be compelled to purchase a certain number of samples, that is most important.—In any locality where the local authority is not active in enforcing the Adulteration Act, you wish for some other power to be able to step in and interfere with them?—Yes, outside officials to do the work for them.—That is to say, that rather than trust your local government of this country, you would appeal to some central authority?—Not entirely, but in some things; in this case I would.—In this case you think that the central authority are more to be trusted?—Not necessarily, but to pull up the laggards; it is not general of course; in our county, for instance, the work is done very efficiently; 500 samples are purchased every year, and done very well, I believe; but in certain places it is done badly.—But you think that at all events there ought to be some means greater than



there are at present of compelling local authorities to take more notice of the Acts that they have to enforce?—To stimulate them, in fact.—You made in Gloucester an experiment in 1892, of which we have heard already from a previous witness, with regard to the adulteration of butter with margarine, or the sale of margarine as butter. Can you give us some information about that, in addition to that which we have already received?—In 1892, 64 samples were purchased by a properly trained buyer.—What do you mean by a properly trained buyer?—It very frequently happens in small places that if a woman who is not known asks for half a pound of butter, she gets it, but if she goes two or three times to the same shop, after the second or third time she gets a mixture instead of butter. In this case we selected a woman whom they would be hardly likely to suspect, and we found that she bought butter the first time, but margarine the second.—Of these 64 samples we have already heard that 15 were found to be margarine?—Yes, varying between 20 per cent. of added fat, and being almost entirely foreign fats.—Then you had samples purchased in those same shops for the purpose of being referred to the public analyst?—Yes, by the sanitary inspector.—Of those 15 samples, how many were adulterated? Five were adulterated.—So that it comes to this: that out of 15 places where adulterated butter was sold to your properly trained purchaser, in only one-third of them afterwards was adulterated butter sold to the public officer?—Yes, and even then he employed a woman to ask for the butter.—Was that due, do you think, to the fact that they had been warned by previous purchases, or was it due to some clumsiness in the method of carrying out the purchases?—It was mainly, I think, due to slowness and clumsiness in carrying out the purchases, giving time for a notice to be sent round from shop to shop informing them, in the words of the Act, that the Philistines were about.—By Philistines I suppose they meant public officials?—Yes.—In the early part of 1893 you tried the same experiment at Cheltenham, did you not?—Yes.—Were the results different?—Out of 68 samples only seven were found to be adulterated.—So that the proportion was considerably better at Cheltenham than at Gloucester?—Not half so great.—The proportion of honesty in dealing was higher, that is to say?—Yes.—How do you account for that?—That in Cheltenham the samples are regularly purchased for analysis, so many per month.—By the authorities?—Yes.—So that cases of adulteration are more liable to detection than in a place like Gloucester, where the Acts are not so efficiently carried out?—Just so.—You would allow inspectors to have greater liberty in employing persons to make purchases for them?—Yes.—In fact, that they should be able to act under deputies properly selected?—Yes.—And in addition to that you would like some other method of inspection of the authorities themselves?—Yes, compelling them to purchase a certain number of samples.—Every year?—Per month. If you say per annum, they perhaps buy a batch all at once, that would have no value. I would compel them to purchase at least once a month.—Are you aware that the Local Government Board has tried to get the local authorities to purchase one sample per 1,000 inhabitants?—Yes.—And that that has been exceeded to a considerable extent, that that standard has been attained and passed by many localities, especially in London?—Yes, and in our own county we buy more than one per 1,000. Have you any reason, from your scientific experience and experiments, to suppose that adulterated butter is mostly used in hotels and restaurants?—It is very largely used in such places.—Is that a matter of opinion?—No, from my own analyses of samples which I have brought away from such places, even in high-class hotels.—Have you anything to say about the addition of antiseptics to foreign butter?—I think that the addition of antiseptics should be prohibited, not only in foreign but in English butter, and in fact in all articles of food.—The two antiseptics that are used are salicylic acid and boric acid?—Most largely.—There is no evidence that either of them is injurious, is there?—I think it follows that an antiseptic must of necessity weaken digestion if it is constantly used, or why call it an antiseptic?—Have you any scientific evidence or facts in regard to that?—I know from experiments on myself that the constant use of butter containing salicylic acid will tend to produce indigestion after a few weeks.—That is, of course, a question?—Yes, and it would act differently with different people, of course.—It is difficult to make an experiment of that kind, and arrive at an accurate scientific conclusion?—If the experiment were repeated often, and always with the same result, I think you could arrive at a fairly accurate conclusion.—I admit that there is a higher degree of probability, but it is not an absolute fact, such as you can get in the science of chemistry?—No.—With regard to boric acid, you have no evidence that it is injurious to health?—No, I have no absolute evidence, but as it acts as an antiseptic it must of necessity produce the same result as any other antiseptic in killing the organisms which we require to bring about digestion.—It is given largely in medicine, is it not?—Yes; but medicine is not food; all medicines, I take it, are evils.—But it is given without injurious effect?—Apparently. I would draw a distinction between medicine given for a particular purpose and an antiseptic given in small doses daily.—But the doses that are given as medicine would be larger than the quantities of boric acid used in butter?—Yes.—You think that the present Sale of Food and Drugs Act breaks down in consequence of shopkeepers sometimes producing a warranty as provided under Section 22 of the 1875 Act?—We frequently lose cases through that.—And there is no way of proceeding against persons who give a warranty?—They are not proceeded against.—And you would have them proceeded against

by a more stringent enforcement of the Act?—Where a man is dismissed by producing a warranty under Section 22, I would compel the authorities to prosecute the man giving a false warranty.—As to the mixture of moisture or water with butter, have you had any experience of that as a form of adulteration?—English butters, so far as I can learn that they are English, rarely contain more than 16 per cent., but some of the coarse very salt Irish butters contain as much as 22 per cent.—And you regard anything over 16 per cent. as adulteration?—As a useless addition, and therefore an adulteration.—You have had also a good deal of experience, have you not, in milk analyses?—Yes.—You have handed in to me here a Table of a number of analyses of milk made during the years 1893 and 1894?—Yes.—Those have been all made by you for the county of Gloucester?—Yes, by myself.—As analyst for the county?—Yes.—Have any of these cases been prosecuted?—No, because I consider that each of them, that is to say, that in all those cases the standard of the solids and the standard of the fats has been above the minimum which would justify your saying that they were adulterated?—Yes. Have you had no samples in 1893 and 1894 of adulterated milk?—Yes.—Why do you give me these, then, instead of the record of those others?—Merely as a suggestion that pure milks do not fall below a certain standard.—That standard, you are aware, is a matter of considerable controversy and great difficulty between experts?—Yes; I do not think there ought to be any difficulty in the matter.—You would say that a standard might be fixed?—Easily fixed.—And at what would you put that standard?—11·5 per cent. for the total solids, and 3 per cent. for fats.—Would that not lead to this in many cases, that persons selling a perfectly honest milk obtained from the cow with no addition of water to it might come under your standard very considerably?—Not if the cow has been properly milked.—But we have had evidence given us here from authorities the other day that samples vary greatly, when they are milked all in the same way?—For individual cows, but not for a whole herd of cows. The sample submitted to the public analyst would be sure to be of mixed milk, and not from a single cow.—But it might happen in this way, that a man might have one cow and sell the milk thereof, and under your system, if it happened to be an old cow, or a cow giving very poor milk, he would be liable to prosecution and conviction for selling a perfectly genuine article, because it did not come up to your standard?—There are many cases put forward where it is stated that the cows give milk of an abnormally low quality, but when they are closely investigated (and I have investigated a good many myself), it has always turned out that either the cow has been specially fed, or that she has not been properly marked; that is only my own experience. Only quite recently I was invited by a farmer to see a herd of cows milked; he was summoned for adding 20 per cent. of water to the milk, and he was quite sure that the cows gave that quantity. On the first occasion he succeeded in cheating me through my not being able to watch his operations closely enough; on the second occasion he very nearly succeeded in cheating me again, but when we had the cows properly milked it came out that the milk came up to 11·9 of solids instead of 10·5.—How did he cheat you?—It is very difficult for one individual to watch two men milking a whole herd of cows, and if you cannot watch the whole operations of the two men they may escape detection. In the first case I was perfectly certain that I had been cheated from the composition of the milk, and therefore I demanded to have the cows milked a second time, and the second milking proved that I had been cheated the first time.—He cheated you, I suppose, by putting water into it?—Into the can before he began, or rushing away very quickly out of my sight.—You adhere to that view of yours, then, that it is within the power of analysts and public authorities to lay down a standard for milk such as you have mentioned, which would not inflict hardship on honest people?—I do; I think 11·5 per cent. is the lowest standard, and I do not think it would pay them very well to risk watering to bring it to that. In exceptional cases analysts should of course consent to visiting the farm and seeing the cows milked, under proper conditions. That might be provided for, if anybody pleads such a case; but I do not think that it will ever occur.—Are you aware that Dr. Wanklyn some years back, and the Inland Revenue authorities recently, have suggested a much lower standard than yours?—Mr. Wanklyn's standard can have no value now, because his method of analysis is obsolete, and was always clumsy; it was good for his time, but is not now. As regards the Somerset House tables the most recent set differ very much from their earlier set. They have given us two sets, and the more recent ones, I think, support my view of 11·5 per cent. of solids, certainly in the case of mixed milks. I cannot remember very certainly, but in the list of mixed milks I do not think that one falls below 11·5 per cent. Then you would make your standard to apply not to the milk of individual cows, but to mixed milk taken from the herd?—Yes.—In all these cases which you have put in as samples of analysis, 43 in number, I find that the total solids are generally above 11·5 per cent. rising in some instances as high as 13 per cent.?—Yes.—The percentage of fat is invariably 3 per cent. or above?—Yes.—So that the standard suggested to us by the Inland Revenue the other day from Somerset House of 2·5 per cent. for fats, and 8·5 per cent. for total solids, is too low a standard in your opinion?—Yes, so far as my experience goes.—It would permit too much of a fraud?—Yes.—Mr. Channing: You consider that a standard of 11·5 per cent. for total solids is a general fair average?—Perfectly fair.

(To be continued.)



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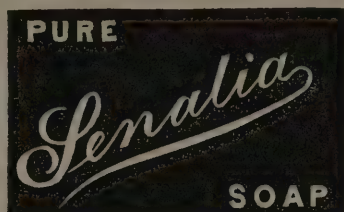
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## Food and Sanitation.

SATURDAY, SEPTEMBER 29TH, 1894.

### HOIST WITH THEIR OWN PETARD.

It was our lot at the time the Pharmaceutical Society embarked on its crusade of greed, to tear away the mantle of hypocrisy with which it covered itself, and to show that it was not regard for the public weal that prompted the onslaught to prevent grocers selling certain patent medicines containing minute doses of poison, but a keen desire to get the extra profits. Had their action been directed to rooting out the sale of the myriads of swindling specifics whose lying announcements fill nearly every chemist's window and are hideous eyesores upon our beautiful landscapes, right thinking people would have given the Pharmaceutical Society their best wishes and support; but the legal twisting and torturing to which the Pharmacy Act was subjected had no such object. It was plain unadulterated greed—a shameful spectacle of one section of nostrum makers on the make; and the Law Courts were used for spoliation purposes. The mills of the gods grind slow, but they grind small, and if the decisions at the Mansion House on Monday be not upset on appeal, chemists and druggists will find how unwise they were in directing so much attention to the Acts under which patent medicines may be vended.

James Ockenden, chemist, 18, Moorfields, appeared upon four summonses for selling tinctures of belladonna, aconite, and nux vomica, and eucalyptus globulus pastilles without the Inland Revenue stamp.

Mr. Dennis, of the Inland Revenue Department, said stamps were required on all medicines in which the vendors claimed the occult secret or art necessary in the preparation of the same, or which were manufactured under letters patent. The third category of medicines in regard to which stamps were required was the one relied on in this case, viz., medicines which were held out

By NOTICE OR ADVERTISEMENT,

or which were recommended to the public as beneficial to the relief or cure of disease.

Evidence was given of the purchase of the tinctures, which were contained in a half-crown case of homoeopathic medicines.

Mr. Lewis Thomas, who defended, said the tinctures had been on sale to the public for the last ten years without any interference from the Inland Revenue Department, who were consulted before they were offered for sale at all, and who, on the authority of Sir John Bridge, decided at that time that no stamp was necessary. He submitted that these tinctures were not held out in the handbills enclosed in the box as nostrums or as specifics for the prevention or cure of disease.

Alderman Samuels: But there are the recommendations in the handbills headed, "Preservation of Health and Restoration to Health."

Mr. Lewis Thomas: If you were to tell a man to put his head under a pump, as it was good for the headache—

The Alderman: The Inland Revenue would say that the pump must have a stamp on it.

Mr. Lewis Thomas: But the pump could not be held to be a tincture or nostrum. He further submitted that the sale of tinctures came

WITHIN THE TWO EXEMPTIONS.

allowed by the Act, viz., when the drugs were uttered or vended entire and without admixture, or when they were sold by a person licensed to sell medicines chargeable with the stamp duty.

The Alderman: In the Act the words, "and having the labels properly stamped," follow the words you have read.

Mr. Dennis thought the summons over the eucalyptus pastilles was very vexatious, as the company manufacturing the pastilles had been in communication with



the Inland Revenue Department, and on finding that a stamp was required had called in the issue of boxes for the purpose of having them stamped.

The Alderman said the defendant in that instance might be a victim, but it was a very flagrant case, and he should impose the full penalty of £10. For selling the tinctures the defendant would have to pay in each case a fine of 20s. and costs. The total amount of fines and costs was £13 16s.

Mr. Lewis Thomas intimated that there might be an appeal.

There is scarce a chemist and druggist who does not prepare a number of nostrums which he recommends to the public as beneficial to the relief or cure of disease, and if this decision be good law the Inland Revenue has a good haul before it; for we suppose that what is sauce for the person selling beer or spirits without a licence will be made sauce for those who prepare myriads of quack trashes guaranteed to cure every ill. Should this decision be maintained, we may indeed see the pharmacists hoist with their own petard. But what we should better like to see would be more attention given to the purity of drugs. The prosecutions at Skipton, which we report on another page, throw a very ugly light on the character of ordinary drugs offered to the public.

#### MILK AND WATER.

At Coalville Petty Sessions, Robert Webster, an aged grazier, of Hugglescote, was summoned for selling adulterated milk, which contained 10 per cent. of water.—Defendant, in answer to the charge, said that he was not up in the morning when the cows were milked, and that his "missis" fulfilled his duties. He pleaded guilty to the charge of adding water, but said that the lad in his employ did it.—Superintendent Holloway, inspector for the division under the Food and Drugs Act, said that on the 27th August he saw Mrs. Webster, the defendant's wife, deliver milk, and went to her and asked for a pint of new milk, for which he paid three-halfpence. Then he told her his motive—that it was for the purpose of analysis; that he would send a third to the analyst, another part he would keep himself, and the third she could retain. The same night he forwarded the portion to the analyst, whose report he handed in.—The Magistrates' Clerk (Mr. David Hale) read the result of the analysis, from which it appeared that "at least 10 per cent. of added water" was sold as new milk.—The defendant said that his "missis" could explain the matter, as she knew "all about it." He (the defendant) was ill, and could not "get about" early in the morning.—Canon Beaumont: You are the responsible person. You are not "the missis."—Do you put water in every morning?—Defendant was understood to reply that the boy rinsed the milk cans with water before putting in the milk.—Superintendent Holloway said that he had cautioned the defendant in March last by order of the chief-constable for milk he sold in February.—Defendant, who remarked that "we are always very careful," was fined a guinea and 10s. 6d. costs, or 14 days.—The money was at once paid.—Canon Beaumont remarked after the conviction that the detection of the meddling with milk was a good thing, and that it was well that Superintendent Holloway should have brought it forward.

#### BUTTERINE AND COMPOUND LARD.

By H. W. WILEY, CHEMIST TO THE U. S. DEPARTMENT OF AGRICULTURE.

I AM of the opinion that many persons would prefer a cooking fat largely of vegetable origin to a pure animal product. To me it seems that some State Legislatures have taken a reprehensible course in prohibiting the sale of vegetable oils as a substitute for lard for cooking. The grower of hogs undoubtedly has a right to contend against the sale of vegetable oils as hog fat, but when he pushes his claim still further, and demands that the markets be closed to products as pure and nutritious as his own, he passes beyond the bounds of public support. Every person in the United States who prefers cotton oil to lard should be allowed to purchase his supplies without let or hindrance. Every grower and maker of pure lard has the right to an equally open market from which every adulterated and mixed lard offered as pure should be rigidly excluded.

For a time, a few years ago, when a popular fad prevailed in favour of nitrogenous foods, the true value of fats to the digestive and nutritive economy was not well appreciated. At the present day this is all changed and we know how to value a fat properly.

It is, therefore, a matter of no mean importance to protect the public in the use of olive oil instead of cotton oil, of cotton oil instead of lard, and lard instead of a mixture of beef and cotton oil stearine. It is true that cotton oil, when carefully refined, is almost as good a salad dressing as olive oil, but it is very much cheaper, and those who prefer to pay the high price should be secured against fraud. In respect of wholesomeness and digestibility, it would be hard to choose wisely between the two.

One of the great difficulties in securing the enactment of a national pure food Bill has been the feeling in cotton growing regions that such a Bill would restrict the market for cotton oil. This is true, if the fraudulent market is meant. By that I mean the surreptitious sale of cotton oil as olive oil and as lard. But such a Bill would not interfere in the least with the legitimate market for the product. Cotton oil as a food has such merit of its own as to warrant the belief that it does not require any smuggling to secure for it a wide and rapidly-increasing use. The south as well as the north would be the gainer from honest markets for honest foods, and it is a shortsighted policy that leads to a crusade against such legislation as will secure the desired result. It would be a rather unfortunate thing for the whole country should an irrepressible conflict between the *sus* and the *gossypium* keep our inter-state market for ever open to mixed or doubtful fats.—*National Provisioner*.

#### ROBBING THE PAUPER.

At Cavan Petty Sessions, on September 17th, Sergeant Stewart, inspector of food and drugs, summoned David Brownlee for supplying new milk to the Cavan Workhouse not up to the proper requirements. The sergeant stated that according to the terms of the defendant's bond he was to supply new milk to the workhouse, to yield not less than nine degrees of cream. On the 31st ult., he visited the workhouse, and when defendant's servant was delivering milk he took a sample, which he divided, and gave one to defendant's servant and told him he was going to have it analysed; he sent another to the public analyst; he afterwards received a certificate from the analyst stating that he found it deficient in fat to the extent of 33 per cent.—Same *v.* Patrick Boylan—for like. Sergeant Stewart said the terms of Mr. Boylan's bond were similar to last defendant's. On the same date he took a sample of defendant's milk, which he had analysed, and the certificate stated it was deprived of not less than 11 per cent. of its fat or cream. Defendant said he supplied the milk the way it came from the cow. Mr. MacCarthy: Have you any evidence to show that it answered the requirements of the register at the workhouse? Defendant said not.—Same *v.* Mary Brady—for like. Sergeant Stewart said the analyst's certificate stated that the milk was deprived of at least 14 per cent. of its fat or cream. Defendant's son stated that the milk was supplied in the same condition as it came from the cow.—Same *v.* Michael Hill. Sergeant Stewart said this case was brought under a different section. The analyst's certificate stated that, in his opinion, at least 6 per cent. of water was added, and it was slightly deficient in cream. Defendant's son said he milked the cows that morning; he saw the milk put into the cans and there was no water added. Sergeant Stewart said they had all been fined several times before. Mr. MacCarthy said there must be a stop put to this sort of thing. Defendants were fined £2 each and costs.

#### THE MILK WARRANTY AGAIN!

At Govan Police-court, on September 21st, Robert Brand, milk dealer, 11, Kensington-terrace, Paisley-road West, Govan, was charged with having, on August 20th, sold a quantity of sweet milk which was deficient of 8 per cent. of fat, or that 8 per cent. of skim milk had been added. Mr. Oates, writer, Glasgow, appeared for defendant, who pleaded not guilty, saying that the milk was supplied under guarantee and sold without being altered. Mr. Oates put in several documents constituting a warranty from the farmer who supplied the milk to Mr. Brand, guaranteeing that the milk was pure. Mr. Brand stated that he had twelve establishments in the city and suburbs. The farmer sent down a man with the milk, and he delivered a quantity of milk first to his Shields shops, and then to his Kensington-terrace shop. At the former he left a note stating the quantity of milk left at both establishments, and in the note was this clause:—"The above is warranted genuine and in good order." The charge was found not proven.

#### THE WATER AT SPIRITS PRICE SWINDLE.

At Retford, on September 22nd, Charles Cooper, landlord of the Sun Inn, Wheatley, was charged with selling adulterated whiskey.—Mr. Bescoby appeared for the defence.—The inspector under the Food and Drugs Act (Mr. G. E. Garforth) said his man bought eightpennyworth of whiskey, one-third of which he sent to the county analyst, whose analysis showed that there was about 13 per cent. of added water.—The defence was that Mrs. Cooper was justified in adulterating the whiskey if the fact were announced; and she did announce it, and he called a number of Wheatley people to prove that it was her custom to make this fact known to her customers. Fells, who purchased the whiskey for the inspector, said, in reply to the Bench, that Mrs. Cooper did not tell him about the added water before he paid for it, nor before Mr. Garforth came in.—After a prolonged hearing the Court retired to consider the evidence. Upon their return the Chairman said the Bench were of opinion a technical offence against the Act had been committed, and defendant would have to pay a fine of 20s. and costs.

George Milburn, of Walsingham, was summoned for selling adulterated gin.—Mr. Bescoby, for the defence, said the offence was committed by a pure mistake. When defendant bought the gin he thought it contained no added water, upon which position he added only what he was entitled to add by law.—To pay 20s. and costs.



**ADULTERATION IN DURHAM.**

At Chester-le-Street, on September 15th, Mr. B. Scott Elder, who represented the Durham Council, prosecuted Roger Dobson, butcher and farmer, Wingate, for selling to Robert Wilson, assistant-inspector of food and drugs, one pint of milk, which on being analysed was stated to contain 8 per cent. of extraneous water, and further to being deficient of natural fat to the extent of 16 per cent.—The certificate of Mr. Stock, analyst for the county of Durham, in proof of the above, was put in.—Defendant asserted that the milk was sold as it came from the cows. He produced a certificate from an analyst at Sunderland, showing that the milk was pure.—Mr. Elder objected to this document. Nothing was said as to whether it was the same milk, and the analyst ought to have been present to verify his certificate.—The Bench concurred.—A fine of £2 and costs was imposed.—At the same time Francis Tully, another milk dealer at Wingate, was charged with selling a pint of milk to Wilson, which was stated to contain 16 per cent. of added water.—The analyst's certificate was produced.—Defendant was selling the milk as new at 1d. per pint. The ordinary price was three-halfpence.—Mr. Isadore Isaacs, who defended, argued that it was so long since his client's cows had had calves that the milk had gone gradually thin.—The Bench (to Mr. Elder): Do you mean to put in the fact of defendant selling at one penny per pint as against him, or in his favour?—Mr. Elder: Whichever way the Bench care to take it. In these days of trades unionism it was not for him to interfere with prices.—Defendant was fined £2 and costs.

At Bishop Auckland, on September 17th, George Tyreman, innkeeper, of Todhills, was summoned by Inspector Dunn, of the County Council, for selling rum below the standard. It was found that when the rum was analysed that it was adulterated 16½ per cent. below the minimum.—The defendant said the excess of the reduction was due to a mistake.—Fined £1, including costs.—John MacManus, of Byers Green, was summoned for selling whiskey below the standard. The analysis showed that it was 6·8 below the minimum.—The defendant said he was ill the day of the complainant calling, and was personally unable to supervise his business. The Chairman said the defendant should have placed some suitable person in his place.—The defendant replied that he did not expect to be ill so long.—The Chairman: You did not expect your friend the inspector was going to call either, I suppose.—A fine of £1, including costs, was imposed.

At Houghton-le-Sping, on September 13th, Micheal Elliot, of the Black Horse Inn, Easington-lane, was charged by Mr. B. Scott Elder with selling whiskey containing a larger proportion of water than is allowed by law. George Wilson, assistant to Mr. Elder, gave evidence of purchasing the whiskey on August 8th.—Fined 20s. and costs, in consideration of defendant being ill at the time, and his previous good character as a landlord.

At Seaham Harbour, on September 14th, George Foster, green-grocer, of Murton Colliery, was charged by Mr. B. Scott Elder, chief inspector of weights and measures, with having in use four weights against the purchaser.—Mr. Elder produced the weights, and in the presence of the Bench placed them on his own scales. One weight—a pound—was seven drachms, or nearly half-an-ounce light. The other three were one drachm each light. Mr. Elder also said an offence had been committed by not having the weights denominated.—Mrs. Foster, who appeared, pleaded guilty, and said the weights were bought second-hand from a dealer at Easington-lane. It was intended to have them adjusted, but this had got neglected.—Fined £2 and costs.

At Durham on September 19th, Sarah Elizabeth Reed, landlady of the Black Bull Inn, Ferryhill Village, was summoned for selling whiskey which was adulterated with 9 per cent. of extraneous water.—Defendant said that it was entirely a mistake.—Mr. B. S. Elder, inspector of food and drugs, prosecuted.—G. S. Wilson, assistant to Mr. Elder, stated that he called at defendant's house and purchased some whiskey, for which he paid 2s. A sample of the whiskey he sent to the county analyst, who certified that it contained 9 per cent. of extraneous water.—Defendant said that the whiskey was not the original strength which she expected it to be.—Fined 10s. and costs.

Ann Lickley was summoned under the Food and Drugs Act for selling adulterated ginger, at Ferryhill, on the 28th ult.—Mr. Scott Elder, who appeared to prosecute, explained that a written warranty from the firm supplying the article would exonerate the defendant, and Mr. Oliver, who appeared for some of the firms, would no doubt explain why it was not forthcoming. The ginger was adulterated to the extent of 40 per cent. with "spent" ginger.—George Wilson said he was taking samples in the neighbourhood of Ferryhill, and called at the defendant's shop. He purchased threepennyworth of ginger, at the same time notifying his intention of having it analysed.—Mr. Oliver said they were not going to dispute the analysis, but he wished to point out one or two extenuating circumstances. In the first place the defendant was an old woman over seventy years of age, and when she bought this ginger she believed it to be a genuine article, and so did the person who supplied it to her. They had tried but had not been able to get at the original vendor of the stuff. The defendant bought two pounds of ginger as far back as November of last year, and as it was not all sold yet her sale was not very great. When she purchased it the question of "spent" ginger being used in ginger had not cropped up, and she had had it in stock a long time. Whether it was due to deterioration or not they did not know. If they could have got the chain of evidence Mr. Scott Elder would have had all the assistance they could give him to get at the real purveyor of the ginger.—The Chairman: I suppose, Mr. Scott Elder, if ginger was kept a considerable time it would deteriorate?—Mr. Scott Elder: I don't think so. It is kept in tins.—The Chairman: What is exhausted ginger?—Mr. Scott Elder: It is that exhausted product of the ginger-beer after the essence has been taken out.—The Chairman: This was adulterated by the manufacturer and not by the ginger deteriorating?—Mr. Scott Elder: Quite so.—Mr. Oliver: There has been nothing added by the retailers.—Fined 5s. and costs.

The lot of the adulterator in Durham is not so happy a one as it is in many counties that could be named.

**FORFAR COUNTY COUNCIL AND THE FOOD AND DRUGS ACT.**

THE sub-committee appointed by the Finance Committee to consider and report on the working of the Food and Drugs Act of 1879 in the county, reported that after inquiry the sub-committee learned that, in consequence of the want of proper organisation, the Act had been practically in abeyance in the county. The convener of the sub-committee communicated with the county sanitary inspector, and suggested that he should consult with Mr. Adamson, chief constable of Forfarshire, with a view to his obtaining his assistance in the working of the Act. Mr. Adamson had expressed himself as willing to co-operate to the extent of allowing two constables to accompany the sanitary inspectors as witnesses when these officials were drawing samples for analysis, on condition that the arrangements were made through him, the chief constable. The sub-committee recommended that the working of the Act be put in the Public Health Department, and that the county sanitary inspector be directed to invite the co-operation of Mr. Adamson on the lines indicated. The sub-committee also recommended that the remit be continued to arrange the details of the working of the principal and amending Acts. The report was adopted, on the motion of the convener, Mr. J. G. Soutar.

**THE FERTILISERS ACT.**

Messrs. Jas. Kydd, Scryne, and Jas. A. Paterson were appointed as samplers under this Act in the Arbroath District, and Messrs. Borthwick, Dunnichen, and John Edward, Bearfauld, were appointed in the Forfar District, along with the sanitary inspector and his assistants.

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## THE LAW AND SPENT GINGER.

AT the Cardiff Police-court, on September 19th, before Mr. R. Bird and Mr. Rees Jones, Jacob Walters, grocer, Castle-road, was charged with a breach of the Food and Drugs Act. There were two summonses against him, the first charging him with having in his possession a certain article of food known as ground ginger, from which a portion thereof had been abstracted so as to affect injuriously its quality, and with having unlawfully sold such article so altered without making disclosure to the customer of such alteration. The second summons charged him with having unlawfully sold, to the prejudice of the purchaser, a certain drug, to wit, ground ginger, which was not of the nature, substance, and quality of the article demanded, being adulterated with spent or exhausted ginger to the extent of 25 per cent. There were also two summonses against the assistant (George Dowman), but, as Mr. Walters took all responsibility for the sale of the article, these were withdrawn. Mr. F. C. Lloyd, deputy town clerk, prosecuted, while Mr. George David, legal adviser to the Cardiff Grocers' Association, appeared for the defendant. The case excited considerable interest, being watched by Mr. W. Griffith, president of the Grocers' Association, and several of its members. Mr. Lloyd said it was his intention to proceed first with the summons in relation to the ground ginger as an article of food, and which was taken under Section 9 of the Food and Drugs Act. He said as to the condition in which the defendant received the ginger he was not concerned, unless defendant had a written warranty with it, in which event it would be an absolute defence under the statute. If he had not a warranty, the fact that he was an innocent vendor of the ginger would not affect his position. If the Bench found that there had been an abstraction from the ginger, they would be bound to convict. The fact that the defendant did not make the abstraction himself would be no answer to the charge, as the object of the statute was to see that every purchaser received pure and genuine articles. In this case the ground ginger was of an inferior quality, there having been abstracted from a part of it a matter which was used for the manufacture of ginger-beer. The adulteration or fraud of which they complained had only come recently before the authorities. There had, it seems, sprung up a practice of extracting the flavouring elements from the ginger root and using them for manufacture of ginger-beer. Formerly the ginger residue from which these flavouring materials had been abstracted was thrown away, but recently it had been ground up and added to the genuine ground ginger. That was the abstraction of which they complained in this case. He then called Philip David, assistant inspector under the Food and Drugs Act, who stated that on August 16th he visited the defendant's shop and asked for half a pound of ground ginger. The assistant asked what quality he would have, observing that he had ginger both at 1s. 2d. and 1s. per lb., and witness replied that at 1s. That was the average price of genuine ground ginger. When he received the ginger he told the assistant that he had purchased it for the purpose of analysis, and divided it into three packages, one of which he gave to the defendant who was in the shop, another he took to the public analyst, and the third he produced in that court. Mr. T. Hughes, public analyst, stated that he received the sample of ginger on August 16th. He analysed it and came to the conclusion that there was an addition to it of 25 per cent. of spent or exhausted ginger. On his certificate he made the following observation:—"Spent or exhausted ginger is ginger from which the essence and flavouring matters have been more or less abstracted by the treatment of weak spirit, the quality of the article being thereby reduced." Ground and powdered ginger was, in his opinion, an inferior article to genuine ginger.—Mr. Lloyd: Could that inferiority be accounted for by evaporation?—Witness: It could not. It was the result of the abstraction of its essential qualities.—In cross-examination by Mr. David, solicitor, witness said that spent ginger and exhausted ginger were practically the same thing.—Mr. David: Is not spent ginger that from which the essence has been absolutely abstracted for the purpose of making ginger-beer?—Witness: Spent ginger is a

ginger from which the essence has been abstracted more or less.—Mr. David: And is not exhausted ginger that from which the essence has been evaporated?—Witness: Oh, no; not to my mind.—Mr. David: By what process do you arrive at the conclusion that the essence has been actually abstracted from this ginger?—Witness: By the deficiency of certain constituents in the ginger.—Mr. David: What are the constituents which are abstracted?—Witness: A certain amount of resin and aromatic principles.—Mr. David: What particular resins?—Witness: I cannot say, it is not thoroughly known.—Mr. David: You say it is not known to science what the resins are? How then can you say that a certain amount of resin has been abstracted?—Witness: By the deficiency in the various matters abstracted.—Mr. David: But if you cannot say what the proper proportions are, isn't it equally impossible for you to say what the deficiency is?—Witness: We can infer it.—The Magistrates' Clerk: Can you give the quantity of resin that ought to be present in the ginger?—Witness: To make the analysis, that is not to my mind necessary.—The Magistrates' Clerk: That is not the question. Can you tell what quantity of resin there should be?—Witness: It varies from 6 to 10 per cent.—Mr. Bird: In your analysis, have you yet discovered a minimum quantity of resin in genuine ginger?—Witness: We don't extract the resin from the ginger to make the analysis.—Mr. David: Then you have not extracted the resin in this particular analysis?—Witness: No.—Mr. David: Then you cannot possibly say whether there is anything lacking?—Witness: Oh, yes! I came to that conclusion in another way.—Mr. David: What! without abstracting it?—Witness: Yes, it can be inferred.—Mr. David: You say that resin was not the only constituent of ginger, but that there were also certain aromatic principles?—Witness: Yes.—Mr. David: What are they?—Witness: They are not at all well known, and cannot be separated.—Mr. David: So that the prosecution is asking the Court to convict the defendant of an offence when the proper constituent parts of ginger are not known to science?—Witness: Oh, no! The exhaustion of the ginger can be inferred from the analysis, because the exhaustion robs the ginger of certain constituents, and from the deficiency of these constituents we can infer spent ginger.—The Magistrates' Clerk: But you must say what the constituents are before you can say what has been taken from them.—Witness: If you ask me to give the name of every constituent, I cannot do it.—The Magistrates' Clerk: It seems to me that you ought to be able to do it.—Witness: Various flavouring matters are abstracted by a solution in the spirit, and I can infer the presence of spent ginger from that analysis.—Mr. David: What are the properties in ginger?—Witness: They depend upon the flavour of various resins and volatile oils.—Mr. Bird: Is it possible for the volatile oil to escape before the spirit is added?—Witness: No, I think not—not if it is kept in the cold in the ordinary way.—Mr. David: Look at that packet. Is not that some of the oil showing through the paper?—Witness: I could not say whether it is oil or wet; I don't deny that it is oil, but I cannot say that it is.—Mr. Bird: If this ginger were kept a very long time would it not be possible for the volatile oil in it to evaporate?—Witness: Not if kept in the ordinary way; the oil is not that volatile.—Mr. David: You say that the ginger would not evaporate?—Witness: Not to any appreciable extent. To my mind, the oil is not practically volatile if kept in the ordinary way.—Mr. David: But if the ginger were kept in a close shop, where the temperature was fairly high all the year round, would not the oil evaporate?—Witness: Not to any appreciable extent. I cannot say that minute portions would not evaporate.—Mr. David: Now, coming again to the constituents of this ginger, I suppose you can say what the maximum percentages of the various constituents are?—Witness: We depend upon the amount of the soluble ash in the ginger, on the amount of matter abstracted by cold water, and on the amount of alkaloids. From the deficiency of these we can tell whether spent ginger has been added, because these are the most definite bodies. It is on these we rely in making our analyses. We arrive at the amount of spent ginger from the amount of soluble ash.—Mr. David: But how do you know that the analyses

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of other gingers from which you have derived your experience have been analyses of genuine gingers?—Witness: Because I have taken the root.—Mr. David: Now can you tell me of any Government return in which ginger is included among food imports?—Witness: I cannot.—Mr. Bird: What is the purpose of that question? Mr. David: I am going to suggest that ground ginger is not an article of food, and therefore does not come under the Act.—Mr. Bird: It is taken by people.—Mr. David: Yes; but being mixed with anything else does not make it an article of food.—Mr. Lloyd said there was an authority on that point.—In re-examination by Mr. Lloyd, witness said it was impossible to say what was the precise amount of adulteration in this ginger, but he inferred from his analysis that there was at least 25 per cent. He inferred that from the absence of soluble ash, the absence of matters abstracted by water, and the amount of alkaloids.—Mr. Lloyd said that was his case.—Mr. David submitted there was no case made out. He had shown conclusively from the evidence of the analyst that there was no standard by which this ginger could be analysed. Mr. Hughes had admitted that it was not known what the proper constituents of ginger were, and before they could say that the defendant was selling an article which was adulterated, the prosecution must show what the constituent parts of that article were.—Mr. Rees Jones: Mr. Hughes has found in his analysis of this ginger the absence of what he knows should exist if the ginger were genuine. Mr. David said that was putting it stronger than what the witness said. He could not say what proportions of resin were absent.—Mr. Bird (to Witness): Did you find more than one kind of resin?—Witness: There are several kinds, but it is impossible to say what they are. Mr. David said the prosecution alleged that a certain amount of spent ginger had been added; but that was not the charge. The charge was that something had been abstracted from the ginger which ought to have been there, and before the prosecution could say that anything had been abstracted they must be in a position to prove what ought to have been there.—Mr. Bird: That is what the witness has done.—Mr. David: I beg pardon, that is what he says he cannot do.—The Magistrates' Clerk: He says there is no standard.—Mr. David said these cases were extremely hard on retail grocers. This ginger was purchased by the defendant from leading merchants at a high price—11d. per lb. He sold it at 1s., or next to no profit. There was very little sale indeed of ginger amongst grocers. Defendant had this in stock for over twelve months, and if there was anything lacking in it, it had been caused by evaporation. The samples produced in court showed that evaporation was going on to a certain extent. He thought Mr. Hughes was wrong in saying there was no distinction between spent and exhausted ginger. Spent ginger was a ginger from which the essence had been abstracted for other purposes; whereas exhausted ginger was a ginger from which the essence had gone out to some extent by the process of evaporation. And he suggested to the Bench that if there had been any loss in this ginger it had been caused by evaporation, and therefore no offence had been committed under the Act. The Act provided that no person should abstract from an article of food. That meant that there must be no abstraction purposely done. He submitted further that ginger was not an article of food, and in support of that contention he quoted the case of *James v. Jones*, heard in the High Court of Justice. In that case, which went up to an appeal from the justices of Glamorganshire, Mr. Justice Hawkins held that baking powder was not an article of food. It might be asked, what was food? It was that which people took for the sustenance of the body.—The Magistrates' Clerk: To sustain life.—Mr. David: Yes, but it could not be suggested that people would take ground ginger to sustain life. It might be added to foods to flavour them, but it did not add to the sustaining properties of food.—The Magistrates' Clerk said he understood that Mr. Lloyd had a case to show that it was an article of food.—Mr. Lloyd said what he had to do was to satisfy the Bench that the inspector had not got what he asked for. The ginger he got was not genuine ginger.—The Magistrates' Clerk: But first of all you have to prove that it is an article of food.—Mr. Lloyd said he was coming to that. If he satisfied the Bench that the inspector did not get what he asked for, that was an offence against the law, whether the adulteration had come about by the course of nature or otherwise. He quoted the case of *Dyke v. Gower*, in which a person had bought milk which was deficient in fatty matters to the extent of 33 per cent. It was admitted in that case that this deficiency was due, not to any fraud on the part of the respondent, but simply to the operation of the law of nature, which caused the cream to rise continually to the surface, so that the lower portion of the milk contained less cream than was supplied to earlier customers. In that case, though there had been no wilful abstraction, it was held that there was no answer to the charge; the customer did not get what he asked for, and the decision was therefore upheld. As to Mr. David's contention that ginger was not an article of food, he relied on the case already quoted, *James v. Jones*, in which Mr. Justice Hawkins stated that mustard, pepper, and salt were articles of food; and the same argument applied to ginger. The Bench having consulted, Mr. Rees Jones said they thought this was a very proper case to be investigated, but it was shrouded in so much obscurity that they did not feel justified in coming to a decision. They therefore gave the defendant the benefit of the difficulties that presented themselves to their minds, and dismissed the summons. Mr. Lloyd said in face of such a decision, so contrary to what had been decided in other parts of the country, he must ask their worships to state a case. The Bench agreed to do this, and it was agreed,

as the evidence in the drug summons was the same, that the two cases should be taken as having been heard together, and the summons dismissed in that case also.

### TUNBRIDGE MILK.

OBEED UNDERHILL was summoned for selling milk which was adulterated with 18 per cent. of added water, at Tunbridge Wells, on August 30th, 1894. The Town Clerk prosecuted. James Cave, inspector of food and drugs for the borough, said he attended the premises of George Coleman, Crescent-road, on August 30th. He was a milk seller. Milk was delivered while he (witness) was in the shop by defendant. He took three samples from different cans. He informed defendant that he was going to have the milk analysed. He took a sample to the analyst on August 31st, another he gave to defendant, and a sample he produced. He likewise laid over the certificate of Dr. Stephenson, which showed that the milk was adulterated with 18 per cent. of added water. Defendant said he bought the milk from Mr. Broomfield, not having enough of his own with which to supply his customers. He sold it in the same condition in which he received it. He was fined £1, and costs £1 2s.

George Coleman pleaded guilty to selling milk in Tunbridge Wells on August 8th, which contained 10 per cent. of added water. The Town Clerk who prosecuted, said Coleman was exactly in the same position as the defendant in the previous case.—The Bench imposed a fine of £1, and costs £1 10s.

### PAUPER'S MILK.

At the County Police-court, Manchester, on September 20th, William Knowles, of Brassington, Derbyshire, was charged with adulterating milk. Brooks, who prosecuted, stated that defendant supplied 48 gallons of milk per day to the Chorlton Board of Guardians. In July an inquiry was made, and the milk from the various farmers who supplied the Board was analysed. On August 22nd an inspector went to Withington Station, where he saw three cans from the defendant. He took a couple of samples, which were afterwards handed over to the county analyst, who certified that there was 18 per cent. of added water. The defendant had written suggesting that the milk had been tampered with.

The cans were certainly unlocked, but if that defence was to be put forward, it would be an easy matter for farmers to adulterate their milk, and then throw the blame upon other shoulders.—Mr. Corbett, for the defendant, said the defendant was a builder and contractor, and the farm was his mother's. He did not derive any pecuniary benefit from it. Neither the defendant nor his mother was morally responsible.—A fine of 20s. and costs was imposed.

### CORRESPONDENCE.

#### SANITATION'S LORDS AND MASTERS.

To the Editor of FOOD AND SANITATION.

London,  
September 24th, 1894.

DEAR SIR,—Your article of Saturday last is highly amusing, but I fail to see how the vestries and boards of guardians are to blame in protecting their own interests. If you would call on the landlords to improve their own properties (as they invariably do in the provinces) instead of leaving it to their tenants to do, you might possibly see a different result. If you look at the grand boulevards on our river and ask who paid for them (vastly to the improvement in value of the landlords' property), you would be told that the tenants paid for the whole, and yet you blame the tenants or, if you like to put it so, the vestries and boards of guardians. Kindly see that the saddle is put on the right horse and not on the wrong ass, and possibly some improvement is visible. 'Tis very fine of you to blame the ignorant and business men, who give their time and attention to these matters; but try and find better at the same price—for instance, try your friends at Somerset House or even the War Office, and what would be the result?—Yours obediently,

GEORGE MAYOR.

Blacklead Works, Love-lane, Southwark, S.E.

### CONTRACTS FOR DISINFECTANTS.

#### IMPORTANT NOTICE!

To Local Boards of Health, Vestries, and Sanitary Authorities generally.

THE SANITAS COMPANY, LTD., beg to give notice that they have reason to believe there are several unprincipled firms who are offering for sale more or less worthless and fraudulent imitations of the well-known "Sanitas" Disinfectants.

The various "Sanitas" Disinfectants are all manufactured by scientific processes which are protected by Letters Patent, and in order to guard against the nefarious practices above referred to, it is respectfully suggested that all contracts for "Sanitas" Disinfectants and Appliances should be entrusted to the Sanitas Company, Ltd., who are the sole manufacturers, or that a stipulation should be made making it obligatory upon contractors to supply the goods in our original sealed packages.

### THE SANITAS COMPANY, LIMITED

(C. T. KINGZETT, F.I.C., F.C.S., Managing Director)

LETCHFORD'S BUILDINGS, THREE COLT LANE, BETHNAL GREEN, LONDON, E.



## DRUG ADULTERATIONS.

SOME light was thrown at Skipton, on September 4th, as to the character of the adulterations practised with drugs. Jane Alderson, of Waller Hill, Skipton, was summoned on the information of Mr. A. Randerson, the inspector appointed by the West Riding County Council under the Food and Drugs Act for the Skipton district, for a breach of the Food and Drugs Act. On the 4th inst. the Inspector visited defendant's shop and asked for 3oz. of tincture of rhubarb. He was supplied with the article, for which he paid ninepence. He informed defendant of his intention to submit it to analysis, and divided it into three parts. After he had bought the rhubarb, defendant said that it she had only known who it was she would have given him some better "stuff" than that. The inspector forwarded it to Mr. A. H. Allen, the West Riding analyst, and in due course received his certificate, which showed it to be present extractive matter 5.23, absolute alcohol 30.80, and water 63.97. The sample contained two-thirds of the amount of spirit with which it had been directed in the British pharmacopœia to be prepared, and in addition, it was entirely destitute of saffron. As defendant was also summoned for selling paregoric destitute of its most important constituent, opium, the second case was proceeded with, and the inspector stated that on the same visit he purchased 3oz. of paregoric, for which he paid sixpence. He forwarded it to the analyst, whose certificate stated that it was destitute of opium. Defendant, in defence, pleaded ignorance.—Mr. Slingsby asked if she had any guarantee with the paregoric, to which defendant replied in the negative, adding that she didn't wish to do anything wrong, or sell anything against the rules. She didn't wish to defraud, and never had done.—Lieut.-Col. Robinson: You should never sell anything you don't understand.—Mr. Randerson, as a warning to others, pressed for a heavy penalty.—The Chairman (to defendant): You had better give up dealing in these drugs.—Defendant: If I have done wrong I have done it innocently.—The Chairman remarked that in each case defendant had incurred a penalty of £20. She would be fined 40s. and costs, £1 2s. 9d.

Wm. E. Harrison, qualified chemist, in the employ of Annie Elizabeth Crump, chemist, of Sheep-street, Skipton, was summoned for selling bismuth lozenges not of the quality demanded by the purchaser.—Mr. G. M. Robinson represented the defendant.—On Friday, August 3rd, the inspector visited Mrs. Crump's shop and purchased 2oz. of bismuth lozenges, for which he paid eightpence. Having forwarded a sample, he received the analyst's certificate, which stated that the average weight was found to be 27 grains, and they contained from 1.54 grains to 1.56 grains of basic nitrate of bismuth per lozenge. The weight required was 26.79 grains, and the sample ought to have contained two grains of nitrate of bismuth per lozenge, but it scarcely contained four-fifths of the amount of active ingredients, though it was of sufficient weight.—In defence, Mr. Robinson remarked that it was obvious that there was no legal defence to set up. In the first place, however, the defendant was only a servant; and secondly, neither the master nor the servant had any guilty knowledge in the present case. He would like the Bench to look at the bottle which was supplied by the wholesale dealer.—Mr. Randerson here interposed and remarked that they had no proof of what was said on the bottle.—Mr. Robinson remarked that the bottle was supplied by the wholesale dealer to the master of the defendant, and each lozenge bore the words "B. P. Bismuth, 2 grains." No doubt the lozenges were short of bismuth, but it was not defendant's fault, as he possessed no knowledge of the defect, and had no means of analysing the lozenges. A fine of 40s. and £1 2s. 9d. costs was imposed, the Chairman being of opinion that defendant should have obtained a proper guarantee.

Edwin Fisher, qualified chemist, in the employ of the Skipton Drug Company, was the next defendant, being summoned for selling seidlitz powders of deficient quality. The inspector visited defendant's shop on August 3rd, and purchased a packet of seidlitz powders, paying 1s. for it. In accordance with the regular custom, the inspector offered to divide what he had purchased into three parts, but defendant refused, and said he had made them himself on the previous day. The inspector then sealed the sample, which contained twelve white papers and twelve blue papers, and forwarded it to the public analyst, whose certificate showed that the contents of six of the blue papers ranged in weight from 122 to 126 grains, of which 32 grains consisted of bi-carbonate of sodium. The contents of the white papers consisted of tartaric acid, ranging from 33.7 to 36.5 grains, and averaging 35.5 grains.—Defendant: There is no fault in the drugs; they are of the purest and best quality.—The Chairman: There is a good deal of fault.—Defendant remarked that the blue papers were not the proper quantity, but they were certainly of the very best quality that they could buy. Defendant then explained to the Bench the process he had adopted for over thirty years when preparing the seidlitz powders, as follows: He put the quantity for twelve powders on the counter, and then divided the powder into twelve equal parts. There was, continued the defendant, the quantity in the whole of the twelve packets, and if all of them had been weighed, just weight would have been found. The same defendant was also summoned for selling bismuth lozenges deficient of bismuth. The inspector purchased 1½oz. of the lozenges on the same day, and paid 6d. for them, the defendant again refusing to have the sample divided. The analyst's certificate was as follows: "the lozenges had an average weight of 22.15 grains, and contained from 1.45 to 1.52 grains of

bismuth. *Observation.*—The bismuth lozenges of the British Pharmacopœia are directed to be prepared in such a manner as to weigh 26.79 grains each, and to contain 2 grains of basic nitrate of bismuth."—The Chairman (perusing the contents of the certificate): This is all wrong anyhow.—Defendant: Yes, but we are not at fault. We have bought and paid the best prices, and we have got the guarantee on every lozenge.—The Chairman: Whom is it signed by?—Defendant: We have bought them from the best house in the kingdom.—The Chairman: If you don't get a guarantee you must run the risk. We are doing to you as we did to the last defendant. You will be fined 40s. and costs in each case. The costs in both cases amounted to £2 5s. 11d.

## WATER AT SPIRIT PRICES.

AT Rugeley on September 24th, Thomas Jones, landlord of the Littleton Arms, Pipe Ridware, was summoned for selling whiskey which was diluted beyond the statutory limit.—Mr. Van Tromp (inspector under the Food and Drugs Act) stated that he and an assistant purchased half a pint of whiskey at defendant's house, which upon analysis was found to be diluted with water to the extent of 32 per cent. beyond the statutory limit. He paid 1s. 6d. for the whiskey, which was a high price.—Defendant said he was not aware of the circumstance, as his mother looked after the house while he was at work.—He was fined 40s. and £1 0s. 6d. costs.

## ADULTERATED BREAD.

AT the Dudley Regis Police-court on September 19th, Mary Ann Davies, Wright's-lane, was summoned for selling adulterated bread. Mr. Van Troup stated that during the last six weeks he had instituted proceedings against five persons for selling bread adulterated with alum, and yet [people persisted in selling the adulterated bread. A loaf of bread purchased at the defendant's shop was found to contain twenty grains of alum. Defendant pleaded that she bought the bread from the baker as pure, and was not aware until she received the summons that it contained alum. The magistrates said it was important that the public should be supplied with genuine articles. This not being a flagrant case, the defendant would only be fined 22s.

## PUBLIC POISONERS.

### A REVELATION OF TRADING IN CONDENSED MILK UNFIT FOR FOOD.

WILLIAM PORTER, of 120, Bidder-street, Canning Town, for having 59 tins of condensed milk unfit for food for sale in his shop, was fined £5 or a month, at West Ham on September 19th. William Evans, sanitary inspector, said one tin was open, and was marked "1d." Other tins were opened, and the milk was found to be bad. Defendant called Charles Fledger, of East India-road, who supplied the milk.—Fledger said he bought the milk at a grocer's sale for 5s. a case, and finding it was thick sold it to the defendant for 2s. a case. Mr. Baggallay: This is a revelation; you're one of the gentlemen that assist to poison the public. I hope you'll be prosecuted.

## THE NOTICE DODGE AGAIN.

JAMES McQUEEN was charged at the County Petty Sessions on September 22nd with selling adulterated rum. Mr. E. Bell defended, and Mr. B. S. Elder, county inspector, appeared to prosecute.—Mr. Elder stated that on the 7th of August he and his assistant went to the Toll Bar Inn, near Ryhope. His assistant purchased a pint of rum, and divided it into three portions. One of these he gave to Mrs. McQueen, one to his inspector, and the other he sent to the public analyst, who found that it contained 25 per cent. more water than allowed by the Act.—The assistant corroborated Mr. Elder's statement, and in answer to Mr. Bell said he did not see any notices stating that all spirits sold in the establishment were adulterated, but not below half-proof strength.—Mr. Elder swore that the notices were not hung in the bar.—Mr. Bell, after addressing the Bench, called several witnesses, who swore that the notices were hung, and the Bench dismissed the case.

## ADULTERATED BEESWAX.

AT Warwick on September 24th, William Ware Walker, of the General Supply Stores, Market-place, was summoned for selling beeswax which was adulterated with 60 per cent. of foreign matter. The Town Clerk (Mr. Brabazon Campbell) prosecuted, and Mr. Slade, of Wallingford, defended.—The certificate of the borough analyst (Mr. Bostock Hill) was not disputed, but it was contended that, as the defendant had bought the substance from the Grocers' Association as beeswax, and it was invoiced as such, this amounted to a warranty. The price paid for it was 1s. 3d. per pound, and it was sold at 1s. 9d. per pound. As soon as this prosecution was instituted the Grocers' Association were communicated with, and they then admitted that it was not genuine beeswax, but cerasin. They then altered their price-lists, and called it "yellow wax;" but as the defendant had sold the article *bonâ fide* as he received it, with an implied warranty, he thought it would be unjust that he should be convicted.—The magistrates held that there was no warranty in law, but thought that the defendant had acted honestly throughout, though he had committed an offence under the Act, for which only a nominal penalty of 5s. would be inflicted.



## THE NOTICE DODGE BY PUBLICANS.

At Clerkenwell on September 21st, Elizabeth Lowry Johns, of the Prince of Wales, New North-road, was summoned by Inspector Cowling, of the Islington Vestry, for having sold a pint of rum which was found to be on analysis diluted to the extent of 9·3 per cent. below the legal standard. The inspector ask for, and was served with, the rum, for which he paid 5d. A notice with respect to the dilution of spirits hung on the premises, but not in such a position as to be read from the particular bar in which the complainant was served. The magistrate said he thought the intention was to give the public notice as to what they were purchasing, for the notice was discernible to most customers; but he thought that for the future a second notice should be hung in the bar in question. He dismissed the summons.

## THE SELECT COMMITTEE ON ADULTERATION.

## CONTINUATION OF MR. GEORGE EMBREY'S EVIDENCE.

## XII.

(Continued from page 304.)

IN the case of a cow whose milk you were deceived about, you found on the second visit that the amount was actually higher?—11·9 per cent.—Are you aware that the French and American standards are considerably higher than the standard which you have named of 11·5 per cent.?—Yes, I think the American standard is a specific gravity one; that is to say, that a 100-gallon can representing mixed milk must have a certain specific gravity, but it works out higher than the standard which I have given.—Have you worked out, and could you state to us what it would proportionately represent, allowing for the difference?—No.—Anyhow, the standards employed in foreign countries are in your opinion more severe tests than the one that you have recommended, 11·5 per cent.?—Yes, but the analyses of milk in other countries, so far as we can get it, appear to show a better milk than English milk; that is to say, that the milk in foreign countries appears to be richer. Whether it is owing to their methods of analysis I cannot say.—Has the Society of Analysts expressed any opinion within your knowledge of any variation in the method which would account for that?—I cannot tell. I believe that the English chemists generally adopt the best method for milk analysis. I do not know whether it is quite general abroad yet.—In your opinion the risk of watering down to the 11·5 per cent. standard would be too great for a man to contemplate?—Yes; it would not pay, it is too risky; they would be sure to go below with pure milk.—I think you have a strong opinion as to the use of colouring matter, in order to disguise thin and poor milks?—I think that colouring matter in milk ought to be prohibited; we always find it in the poor milks.—I think you stated with regard to Cheltenham that the authorities there take monthly samples of butter?—Yes.—And of milk, I presume?—Yes.—What procedure do they take as to persons who take the samples?—Do you mean their general practice, or in this special case?—I mean their general practice?—Generally, a constable is sent from some other part of the country to Cheltenham to make the purchases; he is disguised in some way, and then goes from shop to shop.—As to the presence of salicylic acid and boric acid, have you determined the quantity which is present in samples of butter?—There would not be more than a few grains per pound.—Have you any evidence to give us as to what occurred when the Danish representative, Mr. Faerber I think it was, inspected the district with which you are acquainted?—Mr. Faerber came to Gloucester and visited some of the Gloucester shops, especially those selling Danish butter, because he had an interest only in that; he disguised himself, and he failed to buy from those shops anything but pure butter, although he made two attempts. It was for him that we got the purchaser I have spoken of, to enable him to purchase samples; and as soon as we had succeeded we had no difficulty in getting any number of adulterated samples from the shops that I have referred to. But of course his prosecutions were under the Merchandise Marks Act, and there you are not compelled to notify to the sellers the object of the analysis, so that it is much easier to get a prosecution in that way.—In your analyses of the 64 samples that you went into in connection with this defence association you stated the proportion of foreign fats present, did you not?—The lowest percentage of foreign fat was 20 per cent., but most of them were over 50 per cent. I want to ask you upon that, your own opinion as an analyst and chemist as to the satisfactory working of the tests which you employed to determine the quantity of foreign fats present. Are you satisfied with those tests?—I think that where the proportion of foreign fat is great we have no difficulty in determining the percentage within 5 per cent., but where you have a large quantity of butter and a small quantity of foreign fats, then I would not like to say that we should be certainly nearer than 10 per cent. Are you aware that at the Grocers' Federation meeting at Belfast, a strong opinion was expressed in favour of prohibiting mixtures altogether?—I am not acquainted with that.—Mr. Jeffreys: In testing milk, what did you mean by speaking of "properly milking"?—The first portion of the milk of course contains very little fat; the last milking contains a greater amount of fat. Therefore, of course, it is important that you should watch the cow?—Certainly; and that you should be sufficiently acquainted with farm practice to know when they are

stripping. With regard to the standard of milk, would there not be rather a danger, if you fixed 11·5 per cent. of solids, that rich milk such as you get from Guernsey and Jersey cows might be watered down to that standard?—In exceptional cases there might be; but as a matter of fact we must fix a standard now. I want to ask you whether it would not be a dangerous thing to fix any standard, because the richer milk would be watered or adulterated down to that?—But they may do it, and they do it now, and we have no remedy. You think that in any case it would be better to fix an average standard?—Yes, a reasonably low standard would be safer than none at all.—I believe that sometimes condensed milk and skimmed milk are mixed together; what is the standard of solids in that sort of milk, do you know?—That is to say, making milk up by mixing condensed milk with water?—With skimmed milk?—I do not see the possibility of a standard in that case; it is not a natural product. Such an adulteration could be easily detected, could it not?—Yes, because most condensed milk has sugar in it, and you would not have much difficulty in detecting that. I do not think they have succeeded in making condensed milk without any sugar to preserve it. With regard to margarine, of which you said so much was sold in hotels and restaurants, how can those places be prosecuted for using it; have you ever thought of that?—I do not see well how they could be prosecuted, unless the inspectors be permitted to enter such places and take samples. Under the present law I do not see how they can be prosecuted, but if the inspector be authorised to enter any such places and seize a portion of butter, and pay for it in the usual way, perhaps it might be accomplished. But if he only took the bread-and-butter provided for customers, then you do not see how, under the present law, the hotel-keeper could be prosecuted?—But usually the butter is brought in separately from the bread, except in coffee-houses.—And you are strongly of opinion that women should be employed to obtain the samples in the shops?—For some articles.—For butter?—Yes. In the case of spirits women would be useless.—I meant for butter?—Women or even young children might be usefully employed in the case of butter.—Have you found in your country that the chief constable authorises women to go and procure samples for the police?—I believe that he has only done so on one occasion; he objects to it.—But it would be very advantageous, would it not, if he would do so in all cases?—I think so.—But notwithstanding that, you think that the Local Government Board should urge the county authorities to prosecute in more instances, or to take samples in more instances?—Yes, I think that they should define a minimum number of samples which shall be purchased.—Does the Local Government Board take any notice of counties or corporations who do not institute these prosecutions?—Yes, they occasionally call their attention to it by circular.—And has that circular any effect, do you know?—Not that I am acquainted with.—Therefore you think that larger powers should be given to the Local Government Board?—Yes, to compel the authorities to take more samples.—Mr. Colman:—You referred to the question of colouring in milk, and said that you thought it should be prohibited; have you had any case of colouring in milk? have you ever detected colouring in milk?—Yes, frequently, it is most easily detected; ordinary individuals can detect it without the slightest difficulty.—And is milk, as a matter of fact, coloured much before it is sold; I am not asking about butter?—There are certain districts, I would instance Cheltenham, where the milk sellers have a difficulty in selling milk if it is too pale, so that they colour it specially to give it the appearance of rich milk. It is invariably the case that the coloured milks are the poorest; rich milks are rarely coloured.—Have there been any cases of prosecution for coloured milk?—I do not think that you would be able to prosecute, because the colouring is harmless; it is generally annatto which is used, and it is quite harmless, so far as I know.—What proportion, then, of milk sold would you say is coloured?—I should say that probably half the milk sold is coloured in towns. In country places it is rarely coloured.—Then, as to the samples of butter which you found to be adulterated, have you any knowledge whether they were of home or foreign manufacture?—The only means of knowing would be by asking the dealer, Where has that particular kind of butter come from; and in that way we do get some information which may be reliable or may not; for instance, we can generally recognise what we believe to be Italian butter, and I think that analysis will always enable us to distinguish Australian butter. There are certain differences in butters, and although our knowledge is not always accurate, we can usually distinguish the place of origin from which the butter comes, but not with sufficient accuracy to say absolutely that it is so. As a matter of fact, do you think these samples which you have referred to as having found them to be adulterated were foreign or English butter?—I believe that in nearly every case they were foreign butters. You want greater latitude to the inspectors. Are you aware that under one of the decisions of the High Court it is not necessary that the officer or inspector should personally procure the sample, but that he may employ whom he pleases to do so?—But he must complete the purchase himself; so far as I understand the decision, he may employ an agent to ask for it, but he must complete the purchase himself. And in that respect if it is as you say, you think that the law wants further alteration?—Yes, I would have it made more elastic. Then I do not think I understood your answer as to some grocers' federation at Belfast?—I think my answer was that I was not acquainted with their action; I do not know anything about it. Then you did not make any statement about it, because I am informed that the statement was not



quite correct, as it was suggested to you?—No, I did not.—Sir Mark Stewart: You stated just now that the colouring of milk by annatto was perfectly harmless?—I should say so. Is there not some acid in annatto which is injurious?—The quantity used is so slight, you see, that it would be almost impossible to estimate the quantity, and therefore I should say that it would be harmless in the quantity used. But if a jar of annatto is corked by an ordinary cork, is it not the fact that in a very few months' time the cork will be eaten away by the acid?—I am not acquainted with that, I do not know that; I know that I have jars of annatto which have been kept for years, and that that has not been the case. Of course more annatto would be required to colour butter than milk with the object of bringing it up to a very high colour?—That would depend upon the colour of the butter in the first instance, of course. You do not consider that the small amount of annatto that is used would be injurious to health in any way?—I do not.—Have you had any experience of adulteration of margarine, that is to say, by the addition of margarine to butter?—Yes. My point is rather this, that margarine is very often sold as butter, is it not?—Yes.—Have samples of margarine often come under your observation which are supposed to be butter?—Samples of margarine have been purchased as butter and submitted to me for analysis.—Is that frequent?—Yes, very frequent.—And what remedy would you suggest in regard to margarine sold in small quantities?—If it is sold as margarine there can be no objection whatever to that.—But you could not suggest anything that an Act of Parliament could do in order to prevent small quantities of margarine, a few pounds for example, being sold as butter?—I think that the suggestions which I have made would be quite competent to prevent the sale of it in that way.—Mr. Kearley: I think you told us that you diagnosed the samples that you purchased, and which were found to be adulterated, to be chiefly butters of foreign importation?—Yes.—You gave an opinion that much of this adulteration could be detected at the port of entry?—Yes.—And that that would prevent the circulation of the adulterated article?—Yes.—Is that the unanimous opinion amongst analysts?—I cannot say; I have never discussed the question with my fellow analysts.—Do I rightly understand you to say that it is reasonably possible to form an idea as to the source of origin of butter at the time it is being analysed?—Within certain limits, yes, but only in the way I mentioned. I will give you my own case: I see a particular kind of butter of a certain colour put up in a certain form, and having a certain composition, and I ask the dealer where that butter comes from, and he tells me that it is Italian; I cannot be certain that it is. Then another dairyman who introduces Australian butter, sends me a sample, and says, "Would you like to know the exact composition of this?"—In that way one does get a certain amount of information, but it is not very accurate.—I understand you to say that from your own experience you have found in your own particular locality that the Acts are not being worked so fully as they might be?—I think that in the county of Gloucester the Act is very efficiently worked, and if the inspectors had more latitude as regards the employment of agents, all would be well; but in the city of Gloucester it has not hitherto been worked as it should have been, although some little energy has been shown recently; they are moving in the matter somewhat.—Do you think that the percentage of adulteration diminishes or increases according to the amount of activity displayed in the working of these Acts?—Largely in proportion to the number of samples purchased, whether they be analysed or not, even that reduces the number.—And that can be supported, I believe, by statistics?—It can.—I do not know whether I am correct in assuming that the inspectors who purchase samples require the permission of the local authority by whom they are employed before they can themselves employ agents or deputies to purchase samples from the vendors; is that so?—As they are entirely under the direction of their superior officer, they would not do it as a matter of policy without his sanction.—They must really get his consent?—Yes.—Do you know whether it is left to their discretion?—No; they are directed what to do. The rule would be subject to exceptions, of course.—Then the inspectors purchase the samples themselves?—Yes.—And they resort to disguises?—As well as they can; they are fairly successful.—But you think that it would be more efficacious if they were to make a habit of employing deputies?—Yes.—And you think that nothing more is required than that which is aimed at under the Local Government Board circular of purchasing one sample per thousand; you think that the buying should be continuous, and should represent more a monthly percentage?—A monthly percentage at least.—In order to prevent all those samples being bought perhaps in one month?—Yes.—As regards the use of preservatives that are employed in butter?—Salicylic acid is generally used in the proportion of three or four grains per lb.—What percentage does that represent per cwt.?—It would be something under an ounce per cwt.—Mr. Channing: How general is the use of salicylic acid as a preservative?—It is rarely used in English butter.—Is it present in most of the samples of foreign butter?—Yes, in some foreign samples it is pretty general.—Mr. Kearley: It is practically universal in foreign butters, there is no doubt?—Yes.—Seeing that we are dependent to a large extent on imports of foreign butter for our supplies, do not you think that it would be hurtful to the continuance of those supplies were the use of preservatives prohibited?—The Danish butter is very rarely preserved; it rarely contains salicylic acid. Therefore if the Danes can make good butter without preserving it, why cannot other nations?—Of course, the colonial butter comes a long

distance?—Yes, and that is always preserved.—And frozen too?—Yes.—So that it appears that the colonial importers find it necessary to put preservatives in their butter, notwithstanding the fact that it is brought over in chilled chambers?—Because their methods are not so good as those adopted in Denmark.—That is your opinion?—That is my opinion.—You mentioned that sometimes prosecutions are defeated by reason of warranty being pleaded, and you would suggest that the guarantor should be joined in the prosecution with the vendor, I think I understood you to say?—No; I think that the vendor should be discharged, and that the person giving the guarantee alone should be prosecuted.—Are you not assuming straight away the word of the vendor before giving the guarantor an opportunity of putting a defence on record. Would you advocate that the vendor should be discharged the moment that he raised the question of warranty?—No; he should give notice that he will rely upon it as under the present Act, and then the case should be heard.—Then it would be necessary, would it not, in every case to join the guarantor in the prosecution, in order that the justices might determine as to whether the defence set up by the vendor was a good defence or otherwise?—That would be a very convenient plan; it would be a more reasonable plan.—It would not do at once to dismiss the vendor because he raised the question of warranty?—No.—There are many warranties, of course, that are given by importers who reside in foreign countries; could you suggest how they should be got at?—Vendors rarely buy from such people; they usually buy from the English merchants or wholesale dealers.—But supposing that the wholesale merchant is impugned, he would buy from the importer; he would buy his produce, say butter, for instance, in Denmark. There are plenty of people who distribute butter in retail ways that buy direct from the source of production?—Yes.—And consequently their guarantee would have to be a foreign guarantee. Could you make a suggestion as to how that should be dealt with?—I would hold them responsible, because they ought not to be allowed to carry on such a business unless they were capable of judging whether a thing is what it is represented to them to be.—You think that a foreign guarantee should not be a valid defence on the part of the importer?—Certainly not.—Now as regards the standard of milk. I understand that you are a public analyst?—Yes.—Have you, as a public analyst, any opinion as to the influence of Somerset House upon the execution of the Sale of Food and Drugs Act?—There is no doubt that the low standards that have been fixed by Somerset House have tended to prevent public analysts from reporting samples as adulterated which they were quite sure were adulterated.—Would that be from a fear that on appeal Somerset House would not agree with the decision of the public analyst?—Disagreement with Somerset House is a serious matter to a public analyst; it is almost ruin. In small places, where a man was not particularly strong, one case of his being reversed by Somerset House, although he may be perfectly correct in his analysis, would very likely mean losing his office. Have you any opportunity of ascertaining the standards of Somerset House?—Only in a few cases where they are called to support their certificate, where they are asked questions; in a few such cases we get some notion of their standards, but we have no direct method.—You simply assume it by the revelations that come out in prosecutions, and admissions made then?—Yes, if I were to write to the authorities at Somerset House, and ask for their standard, they would not give it me.—Is it within your knowledge that there has been any official communication by the society to which you belong to Somerset House, asking for this information?—Yes.—What was the reply, do you know?—I cannot remember the words, but the reply was that they were unwilling to carry on the correspondence; a number of questions were submitted to them; I am hardly prepared to give you the details of it, but several questions were submitted to Somerset House, and they were asked to meet the analysts in a certain manner, but I believe that the result was a direct refusal to help us in any way.—Now as regards the theory or the fact that it is consistent with milk coming direct from the cow that the milk shall be so lacking in the necessary essentials that it shall be worse, or as bad, as an adulterated sample, how would the setting up of a uniform or minimum standard affect such milks?—Ought not that to be taken into consideration in setting up a hard and fast standard?—I think that exceptional cases may easily be dealt with in the manner that I have suggested.—As regards dairy farms, where the product of the herd is mixed, that is to say?—There is no evidence in dairy farms that the milk has ever fallen below 11·5 per cent. of solids. In the exceptional cases of particular cows which have been specially fed, or which are not in good health, or in certain conditions in relation to calving, that could be easily met in the manner that I have suggested.—And in addition to cases where cows are in bad health, or suffering from bad feeding, do I correctly understand you to say that it is quite possible to milk, we will say, a cow that is known to give very good results in such a way at the commencement of the milking that it would give a milk that would be almost devoid of fat?—Yes, that is so.—You, no doubt, in your professional capacity, have studied the action of continental and colonial authorities in connection with the setting up of milk standards?—I do not know that I have specially studied it. Have you ever seen the analyses carried out by Vieth, the celebrated analyst?—Yes; I am acquainted with such as have been published in the Journal of the Society of Public Analysts.

(To be continued.)



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## Food and Sanitation.

SATURDAY, OCTOBER 6TH, 1894.

### THE WATER AT WHISKEY PRICE SWINDLE.

AT Penryn Police-court on September 26th, Richard Monhinick, landlord of the Royal Standard, Flushing, was charged with selling adulterated brandy and whiskey on August 16th. He pleaded guilty, and said—"I have always kept good stuff, and I did not consider that I was making anything more than a fair profit." Superintendent Beare informed the Bench that on the day mentioned he purchased from the defendant a pint of whiskey and the same quantity of brandy, and immediately offered to divide the spirits into three parts and give one to defendant, in order that he might have it analysed, and so, if he thought fit, compare it with the analyses of the public analyst. It was ascertained that the whiskey was 31 degrees below proof and the brandy 37 degrees. Their worships informed defendant that he was liable to a fine of £20 in each case, but they had decided to deal leniently with him, and would fine him £2 10s. and costs in each case, the total amount to be paid being £6 13s.

At Loughborough Petty Sessions, Mary Burrows, licensed victualler, Castle Donington, was summoned for selling adulterated brandy on August 25th.—Deputy Chief Constable Smith proved the case, the brandy being 18 per cent. below the standard, and a fine of £3, or 14 days, was inflicted.

Mr. Thomas Henry Lewis, inspector under the Food and Drugs Act, appeared at the Caerleon Police-court on September 27th, and told the Bench that recently he visited Caerleon and took samples of whiskey at the Angel Inn and the Red Lion Inn, and the result of the analysis showed that the whiskey sold to him at the Angel Inn was 33½ degrees under proof, being 8½ degrees more than allowed by the Act. Mrs. Wellbourne, the landlady, told the Court that she only put the usual quantity of water in the whiskey. The magistrates remarked that the landlady had put in rather an overdose of water, and fined her £3 and costs. The sample purchased at the Red Lion Inn was 43½ degrees below proof. Mr. John Hillman, the landlord, told the Court that he was not aware of the law on the subject, and he was now fined £4 and costs.

At St. Clears Petty Sessions P.-s Henry Evans charged Joshua Griffiths, Black Horse Inn, St. Clears, with selling adulterated whiskey. The sergeant said that on August 9th he visited defendant's house and called for a glass of beer and a glass of whiskey, and he had both. He also had half a pint of whiskey out of the same bottle. He sent it to the public analyst at Swansea. He now produced the latter's certificate showing the whiskey to be 44½ deg. under proof. Fined £1 and 10s. 6d. costs.

At Malton, on September 29th, two landlords, Christopher James Plews and Thomas Sadler, were charged by the county inspector under the Food and Drugs Adulteration Act, the one with selling whiskey adulterated with 35 per cent. of water (or 11 per cent. more than is allowed by the Act), and the other with selling gin adulterated with 42 per cent. of water. Plews was fined £1 10s., including costs, and Sadler £1.

At Ashby-de-la-Zouch Petty Sessions, Ann Cecilia Cox, licensed victualler, of Ashby, was summoned for selling brandy adulterated 32 degrees under proof, at Ashby, on August 27th.—Superintendent Holloway stated the case.—Fined 20s., and 12s. costs.

### WHAT HAPPENS TO MILK SWINDLERS AT BERNE.

A DAIRYMAN charged before a Berne police-court with delivering impure milk to his customers was condemned to six days' imprisonment, and the payment of a fine of six hundred francs, it being proved that he was aware of the criminality of his proceeding. The dairyman appealed against the decision to a higher Court. The Court of First Instance ruled that the judgment of the magistrate had only erred on the side of leniency, and the swindling milkman was condemned to sixty days' imprisonment and the payment of a fine of 1,200f.

### THE SEPARATED MILK GAME.

AT Westminster on September 27th, the St. George's (Hanover-square) Vestry, by summons, prosecuted Tom Felie Stevens, of 52, College-place, Chelsea, before Mr. de Rutzen, for selling milk from which the cream had been abstracted to the extent of 35 per cent.—Mr. Herriott, the vestry's inspector, bought a pint of milk for a penny three farthings from a man in the service of the defendant out with a barrow. After the purchase was completed the salesman drew the inspector's attention to the fact of a label pasted on the barrow with the words thereon, "Pure separated milk." He also said that new milk could not be expected for the price.—Mr. de Rutzen told the defendant that he had not brought himself within the meaning of a particular case decided, and fined him 40s. and 12s. 6d. costs.

### THE "7½ PER CENT. WATER" LIE AGAIN.

AT Bournemouth Petty Sessions, Mary Jane Baker, of Springbourne, who was summoned at the last petty sessions for selling milk adulterated with 10 per cent. of water, again appeared before the Court. It will be remembered that on the last occasion Mr. J. Druitt, who appeared for defendant, asked that the case might be adjourned in order that a part of the milk might be sent to Somerset House to be analysed. The certificate stated that after making an addition for natural loss and change, the milk was adulterated with 4 per cent. of added water.—Mr. Druitt asked the Bench on the face of the new evidence to dismiss the case. He pointed out that there was a case in which the Somerset House authorities found that milk taken direct from a cow contained 7½ per cent. of added water.—The Bench convicted, but taking into consideration the heavy costs, they only imposed a small penalty. The fine and costs amounted to £1 5s.

### ADULTERATED GINGER.

AT the Trowbridge Petty Sessions, the other day Henry Albert Horler, grocer, Mortimer-street, Trowbridge, was summoned for selling a certain article of food, known as ginger, from which 40 per cent. of essential ingredients had been abstracted, without making any disclosure of the same to the purchaser. Mr. P. Crutwell, solicitor, Frome, appeared for the prosecution, and Mr. C. J. Jones, solicitor, Trowbridge, represented defendant.—Mr. Crutwell said he appeared for Mr. F. Beardsley, who was a duly appointed inspector under the Food and Drugs Act, and also an inspector of weights and measures for the district. Defendant was summoned for having sold a quantity of ground ginger, which, as he should show them, was deficient of the properties which it ought to have possessed, to the extent of no less than 40 per cent. It was a practice which had only recently been introduced by the wholesale houses—at any rate it had only been discovered recently—of mixing a large quantity of spent ginger with good ginger, and then retailing it to the public. Spent ginger was ginger from which almost all the strength—all those valuable and stimulating properties they knew ginger to possess—had been abstracted, generally in the process of ginger-beer making. He believed the



process was that ginger was subjected to some alcoholic treatment which abstracted all the valuable properties, and the residuum left consisted simply of fibrous and starchy matter which was utterly worthless and valueless for any purpose whatever. This valueless residuum was then ground up with genuine ginger, and the whole retailed to the public. The practice was, he believed, a recent one, and there had been no prosecution in respect to it until this year, and those cases which had been dealt with were chiefly in the North of England and the Midlands, the present case being, he believed, the first prosecution of the kind in the South of England. Therefore, considerable importance was attached to it, because, as they would see, this addition of exhausted ginger naturally very much weakened the pungency of the whole mixture; and as ginger was used in various ways, for cooking, stomachic, and medicinal purposes, it was of great importance to the public that they should get the pure article and what they asked for. If the ginger in question was deficient to the extent of 40 per cent., as he should show, defendant would clearly have brought himself under Section 9 of the Act, which provides that no article should be sold with any alteration unless disclosure was made of such alteration. In this case he did not wish to make any personal imputation whatever on the defendant; he believed he was a very respectable tradesman carrying on business in that town, and no doubt he had bought the ginger in the ordinary way of trade in the cheapest market. He believed it was a fact that ground ginger was now sold by wholesale houses at a price at which pure ginger could not possibly be supplied. He should point out to them that the defendant might have protected himself if he had chosen by obtaining a warranty from the wholesale house which supplied him with the ginger, but nothing of the sort had been done. He had no doubt defendant sold the ginger in the same way he received it from the wholesale house, but that would be no defence to the case if he showed that the article had been injuriously affected by the abstraction of the pungency and a great part of its natural strength. Evidence was then called. Alfred Sparrow, a boy twelve years of age, said on September 9th he was employed by Mr. Beardsley, and he went to Mr. Horler's shop. He saw the shopman, and asked him for two ounces of ground ginger, and it was put in a packet for him. He paid three-halfpence for it. Mr. Beardsley was just outside the shop, and he gave him the packet. Mr. Horler entered the shop when the shopman was serving him. Frank Beardsley, an inspector of weights and measures under the Wilts County Council, deposed that on the 9th ult. he employed the last witness, who acted under his instructions. He saw him purchase the ginger, and when he received it from him he immediately took it back into the shop and informed Mr. Horler he had caused it to be purchased for the purpose of having it analysed by the public analyst. He offered to divide the sample into three parts, and Mr. Horler accepted one part. He subsequently sent one part to the public analyst by registered post, and the other part he now produced. Since then he had received a certificate from the public analyst which stated, "I am of opinion the same is a sample of ginger which has been so deprived of its soluble ingredients as to materially and injuriously alter its nature, substance, and quality. The constitution of this ginger was not altered by keeping, so as to interfere with its analysis. It contained approximately 40 per cent. of exhausted ginger." In answer to questions, witness said the practice had recently been developed of extracting the whole of the stimulating properties from ginger.—Cross-examined by Mr. Jones: Is there any standard for pure ginger?—Witness: I think the analyst ought to be asked that question.—Mr. Jones: Have you the analyst here?—Witness: No.—Mr. Jones repeated the question.—Witness: I don't know.—Mr. Jones: Were you informed as to where this ginger was purchased by Mr. Horler?—Witness: Yes; I think I was.—Mr. Jones: You were told it was purchased from Messrs. Stratton and Sons?—Witness: I think so.—Mr. Jones: Do you know that a question has arisen as to whether ginger is a food within the meaning of the Act or not?—Witness: I know it has arisen.—Mr. Jones: And that a case is now being asked for on that point?—Witness: I don't know that.—Mr. Jones: Have you seen a report of the Cardiff case?—Witness: I have not.—Mr. Jones: What price would you pay a chemist for pure ginger?—Witness: That I cannot say; I have been told that pure ginger can be bought at 20zs. for 1½d. from any respectable firm.—Mr. Jones: Where was that?—Witness: I don't think I ought to give the name unless the Bench want to know.—Mr. Cruttwell pointed out that chemists' profits were not on the same scale as those of grocers, and further, they retailed it as a drug.—(To Witness): I ask you, not necessarily as an expert; but as a matter of common-sense, is ginger clearly an article of food?—Witness: I should say so, undoubtedly.—Mr. Jones said he had to take a point that ground ginger was not a food within the meaning of the Act. Because a thing might be used in many ways, it did not follow that it thereupon became a food. He failed to distinguish ginger in its use from such an article as baking-powder. Baking-powder was used for the manufacture of bread, for pastry, and divers other purposes, and when so mixed and blended it became food, but there was a decision of a court, which he had no doubt the Bench would give effect to, which held that baking-powder was not a food at all. The case referred to was one decided by the Recorder of Cambridge, who held, on appeal, that baking-powder was not food (*Warren v. Phillips*, 44 Justice of the Peace, 61; also reported in the *Law Times*, 68, 246). He failed to see, if baking-powder was not a food, by what theory, by what process,

it could be held that ginger was a food, for, as his friend got out in the last question put to his witness, it was sold by chemists as a drug. He ventured to say that ginger was not, in its nature, such a thing as could be ordinarily described as being a food. The statute was a penal one, and therefore the Bench had to consider very carefully so as to give due effect to its meaning. He considered it would have been much more satisfactory if the analyst had been present, because, as they would remember, he put a question to the inspector as to whether there was any standard for pure ginger, and he replied that he could not tell him that he knew of any standard. As far as he (Mr. Jones) knew there was no standard or test, and all the experiments were purely imaginary. He asked the Bench to decide on the point as to whether ginger was a food within the meaning of the Act.—Mr. Cruttwell said if the Bench had any doubt upon that point he should ask them to hear him. It was a question of law upon which he was entitled to reply.—The Chairman: The Bench are disposed to regard it as an article of food.—Mr. Cruttwell said if the Bench had held otherwise he did not see how a prosecution could take place with regard to mustard, etc.—The Chairman: Of course, sometimes it is used for medicinal purposes.—Mr. Cruttwell: Even then it would come under the Act.—Mr. Jones: Then the summons would be wrong, because we ought to be charged with selling a drug instead of food.—Mr. Cruttwell: If you don't like this you can immortalise yourself by appealing. His friend had impugned the analyst, but he had no business to do so. Under Section 21 of the Act, they were bound to take the analyst's certificate, but if his friend asked for the analyst to be present he ought to have given notice. He also asserted that there was a recognised standard for testing ginger.—Mr. Jones said up to that morning they had not been furnished with a sight of the certificate; therefore how were they to know who the analyst was?—Mr. Cruttwell: Mr. Beardsley would have shown the certificate at any moment; it is not a hostile prosecution.—Mr. Jones: What I say is this—that until we came into court to-day we had no name of the analyst, and we had not been furnished with a copy of his report.—Mr. Cruttwell: Why, don't you know the name of your own county analyst?—Mr. Jones: We know it, but it does not follow that it may be sent to him. Further arguments on the subject took place; and Mr. Jones added that in other cases the analyst had been in attendance as a matter of fact and as a matter of course; he had been in several cases where Mr. Gatehouse was present, and he had never given notice requiring his presence. The Bench decided against the contention that the prosecution were bound to bring the analyst into court.—Mr. Cruttwell: If my friend is willing to pay the costs of the day, we will have the case adjourned and bring him here next time. Mr. Jones said he should not do that. Mr. Jones then proceeded to speak on the merits of the case. He said his client purchased the ginger from a house of good repute, Messrs. Stratton and Sons, and the invoice (produced) was dated October, 1893, the item being "7lbs. of ground ginger at 4s. 8d." He referred to the date of the invoice for this purpose; his friend said that defendant might have protected himself by obtaining a warranty with reference to the ginger. Now it was in evidence that there was no question of such a fraud having been practised by wholesale firms until the first prosecution under the Act, so recently as January, 1894, and therefore his client could hardly imagine that, having gone to a house of good repute, he was not getting what he asked for. If the Bench thought the law had been broken he hoped they would think it was not through any fault or overt act on the part of defendant, or from any omission which he could have foreseen or foretold. He could not foresee that such a system of blunder was in existence as that the manufacturers used spent ginger for mixing with ground ginger. Their Worship would see that the ginger was paid for at 8d. per lb. and sold at 1s., so that the profit was only a fair living profit.—Henry Albert Horler, defendant, gave evidence. He said, so far as he knew, the ginger when he bought it was pure ground ginger. It was now in the same condition as when he received it; he had not blended it in any way whatever.—Mr. Cruttwell said the Bench could come to only one logical decision, as it had been practically admitted that defendant was guilty. He had been careful to make no imputation on defendant, and he could only say that the object of the prosecution was to obtain publicity, so that the public might be put on their guard. He did not ask for one moment that the Bench should inflict a heavy penalty.—The Chairman: We think the case has been proved, and we also think that the defendant had no knowledge that this mixture contained 40 per cent. of exhausted ginger, therefore we shall only fine him the nominal sum of 1s., and costs 9s.—Mr. Cruttwell applied for solicitor's fee, but the Bench refused the application.

**FRAUDULENT SALE OF MARGARINE.**—At the last meeting of the Manchester, Salford, and District Grocers' Association, Mr. Williams moved: "That the members of the Manchester, Salford, and District Grocers' Association view with satisfaction the appointment of a Select Committee of Inquiry on Food Products, and take this opportunity of expressing the opinion that no legislation affecting the sale of margarine will be effective for the suppression of fraudulent dealing in the article if margarine is allowed to be placed on the market for sale by manufacturers in such a form as may lead to its being mistaken for butter. That a copy of this resolution be forwarded to the chairman and members comprising the Select Committee on Food Products." The resolution was adopted.



## THE HEATING POWER OF SMOKE.

BY R. R. TATLOCK, F.R.S.E., F.I.C., F.C.S.

It appears to be generally understood that a large percentage of fuel is lost in the smoke which issues so abundantly from most chimneys, and random statements have been made to the effect that the loss in heating power due to this passing away of combustible matters in smoky furnace gases may reach as high as 30 per cent. of the whole. A little consideration, however, will show that the loss of any large percentage of combustible matter, and consequently of heating power, is quite out of the question. This may be proved in two ways (1) by calculation of the two sources of heating power as shown by an analysis of coal or dross used for steam-raising; and (2) by actual analysis of the furnace gases for combustible solids and gases. In the following paper are given the results of these two methods of observation, the same dross being analysed and also employed as fuel in a works furnace from which smoky gases were given off which were tested for combustible matters.

(1) The following is the analysis of the dross employed :—

Gas, tar, etc.	...	...	...	...	...	...	37.63
Fixed carbon	...	...	...	...	...	...	49.97
Sulphur	...	...	...	...	...	...	.40
Ash	...	...	...	...	...	...	2.72
Water	...	...	...	...	...	...	9.23

100.00

Heating power (practical) due to gas, tar, etc	...	1.16
"              "              "      fixed carbon	...	6.49
		<hr/> 7.65

7.65

The points to be observed are the relative proportions of heating power represented in the analysis by the number of lbs. of water at 212° F. capable of being evaporated to dryness by 1lb. of the fuel given out respectively by the combustion of gas, tar, etc., and by fixed carbon. These are calculated according to Playfair's well-known formula, which was practically tested on coals intended for the British Navy, and which shows that while 1lb. of fixed carbon is capable, when burned, of evaporating 13lbs. of water at 212° F. to dryness, 1lb. of the gas, tar, etc., will only evaporate 3.1lbs. From these figures it appears that in this coal or dress the gas, tar, etc., only contributes 15 per cent. of the total heat given out during the combustion, and that the fixed carbon produces the remainder, or 85 per cent. In coals with less of the former ingredients and more of the latter, which is commonly the case, the proportion given out by the volatile constituents would be considerably reduced. It is thus perfectly clear that even though the whole of the volatile matters which can alone be accountable for any loss of combustible material) escaped combustion, there could not possibly be a greater loss of heat than 15 per cent. of the whole, even in such an extreme case as this represents.

(2) An analysis was made of the furnace gases given off during the burning of the dross of which the results are given above, with the following results :—

	Gas very smoky.			Gases almost free from smoke.		
	Per cent. by volume.			Per cent. by volume.		
Carbonic acid ...	...	5·0	...	...	3·5	...
Carbonic oxide ...	...	None	...	...	None	...
Hydro-carbons ...	...	Trace	...	...	None	...
Nitrogen ...	...	79·9	...	...	79·9	...
Oxygen ...	...	15·1	...	...	16·6	...
	<hr/> 100·00			<hr/> 100·00		

It has been asserted that carbonic oxide is given off in considerable quantity when much smoke is being produced, but it does not appear in this case; and Hempel in his work on "Gas Analysis" comes to the conclusion that little or no combustible gases are present in furnace gases. In the volume referred to (page 205) Hempelsays: "Furnace gases usually contain only carbon dioxide, oxygen, and nitrogen. All other gases are present in but very small amounts. In oft-repeated analyses the author has always found only traces of carbon monoxide, methane, and the heavy hydrocarbons." This is in complete accord with the analyses given above, and it may be taken for granted that the presence of carbonic oxide or other combustible gases in furnace gases is a most unusual occurrence. This is quite conclusive evidence that no appreciable loss of heat, even when the furnace gases are smoky, can be attributed to the passing away of the products of imperfect combustion in the gaseous form at least.

That there is loss of combustible matter in the smoke is an undoubted fact, but the quantity seems also to be greatly magnified in certain random statements. In the experiment referred to above the soot was also collected during 1½ hours with the following results:—

					Grains per 100 cubic feet of furnace gases.
Carbonaceous matter	...	...	...	...	30.81
Ash, or mineral matter	...	...	...	...	20.65
<hr/>					
Total soot	...	...	...	...	51.46

It will be observed that the soot collected consisted largely of mineral or incombustible matter. In several experiments to estimate the soot in furnace gases, similar results to these were obtained, and the average would come very close to the quoted results of this special test. To find how much carbonaceous matter was actually lost as smoke it will be necessary to know the number of cubic feet of furnace gases given off by the combustion of, say, one ton of the dross. If the percentage of carbonic acid in the furnace gases is taken at 5 per cent., the total volume of these given off from one ton dross would be about 940,000 cubic feet measured at the ordinary temperature and pressure, and this would contain 41lbs. of carbonaceous matter and 27lbs of mineral matter. This would represent 1·83 per cent. of the volatile matters (gas, tar, etc.) given in the analysis of the dross, and if from this is now calculated the heating power according to Playfair's formula, it will only come to 0·057. This figure, compared with the practical heating power (7·75) of the dross, goes to show that the solid combustible matter of the smoke can only account for the very small percentage of 0·74 of the total heating power which can be obtained from the coal.

From the result of these experiments it is evident that the loss of combustible matters in smoke is very small indeed, and that the belief in immense loss by this cause is simply a fallacy, and is decidedly not corroborated by experiment. In adopting methods of removing the smoke nuisance it must therefore be borne in mind that there is little or no gain in burning smoke, and that other methods of dealing with the problem, such as DuLieu's Smoke Absorption process, ought also to receive consideration.

MUSTARD AND 15 PER CENT. STARCH.

AT Manchester on September 26th, Aaron Light, provision dealer, 32, Bury New-road, was summoned by Mr. A. T. Rooke, inspector of nuisances, for selling an article which was not of the nature, substance, and quality demanded. The evidence was that Inspector Holland went into the shop and asked for a quantity of mustard. It was supplied to him from a tin, and the wrapper in which it was enclosed did not state that it was a condiment. As a matter of fact, it contained 15 per cent. of starchy matter. In reply to the Bench, Mr. Estcourt, city analyst, said the defendant would have been all right had the wrapper indicated that the article was a mixture. A fine of 5s. and costs was imposed.

FOLLOWING SIR WM. V. HARCOURT'S ADVICE.

AT North London on September 26th, Louis Buenfeld, landlord of the Cottenham Arms, Cottenham-road, Holloway, was summoned by the Inland Revenue authorities for diluting beer to the extent of two gallons in the barrel of 36 gallons. Mr. Hawkins prosecuted, and Mr. A. J. Ford defended. The evidence was that the defendant admitted to the officers when they took a sample of his mild ale that he had added ten or fifteen gallons of waste beer to about ten gallons of good ale left in a barrel, added to which he put a quart of finings. A gallon of finings had originally been in the cask. Mr. Ford, for the defence, denied that his client made the statement, and explained that it was all through a negligent barman, who had allowed the glass-washing tank to overflow into the waste beer tank. Water in beer promoted temperance.—Mr. Lane : By making it nasty, I suppose?—Mr. Lane considered the offence proved, and fined the defendant £25 and £3 costs.

CHEAP AND NASTY TEAS.

AT the City of London Court on September 23th, the Deputy Judge heard the case of *Calthorpe v. Harrison*. The plaintiff is a tea merchant in the City, and the defendant is a grocer in Seven-dials. The claim was for £7 for a quantity of tea dust supplied to the defendant, which it appeared was purchased from the plaintiff at 2½d. per lb.—Plaintiff was called, and stated that the article he sold to defendant was a marketable commodity, but as he had had it a long time in stock he wished to get rid of it. It was tea, but he expected to find a certain proportion of foreign matter in the stuff. He had had it warehoused for two years. In the ordinary course of business good tea dust realised from 6d. to 7d. per pound. In cross examination he said that this "tea" might be the same sort of tea that was supplied to the Salvation Army for their shelters.—The defendant stated that he had been selling the "stuff" for some time before he discovered its bad quality. It would have been impossible for him to have told by the sample package, without analysis, that it was adulterated. The reason that he bought it at such a low price was that it had been warehoused for such a considerable time, and that plaintiff desired to get rid of it. He did not sell the tea dust by itself, but mixed it with other teas. It was mixed with cheap teas, and sold at 1s., 1s. 3d., and so on, per pound. Mr. Cripps, analyst to the Strand Board of Works, deposed that the sample of tea dust had been submitted to him for analysis. On examination he found it contained 13½ per cent. of mineral matter, 6 per cent. of which was silicate of sand. In the ordinary course of his duty he would have condemned such a sample. In cross-examination, witness said that the 13½ per cent. he alluded to was not "foreign" but mineral matter. His Honour said no tradesman could be expected to sell such stuff as this when he found out what it was. There would be a verdict for the defendant, less the cost of the amount he had sold.



## THE SANITARY INSTITUTE CONGRESS AND SOMERSET HOUSE.

At the Sanitary Inspectors' conference at Liverpool, on September 25th, Mr. B. Scott Elder (Durham) read a paper on "The Difficulties and Drawbacks of the Food and Drugs Acts." The subject, he remarked, was of special interest at the present time because of the attention given it by local authorities as well as the public, and from the fact that a Select Committee of the House of Commons had recently been investigating the working of the Acts. The question which claimed the first place in their consideration was the written warranty. It was one of the principal provisions of the Act, but, in the speaker's opinion, if it were not subjected to immediate and radical amendment, a great part of the Act would become a dead letter. It should be defined by the Legislature what a written warranty is, and it might be enacted that a specified form of warranty should be given, either on or with the invoice, or that the invoice itself should be a sufficient warranty, but in either case with certain restrictions. The apathy of certain local authorities in carrying out the provisions of the Act was another serious drawback, and such a drawback could only be counteracted by the Local Government Board sending their inspector into the district, and saddling the cost of such procedure upon the offending authority. The continual differences of opinion between Somerset House and the public analysts, owing chiefly, he believed, to the want of standards and absence of precise knowledge as to what should or should not enter into the constitution of various articles, were serious drawbacks to the working of the Act. The absence of a body vested with power to supply that knowledge was very much felt, and it was highly desirable that a central authority should be established, which would be at one and the same time a council of advice, reference, suggestion, and authority. The magistrates, in his opinion, held the key to the situation, and it was in inflicting small penalties that they failed to recognise the importance of the Act. In conclusion, Mr. Scott Elder said there were many other points demanding immediate attention, foremost among which was the label question and the difficulties connected with drug prosecutions, whilst it should be distinctly understood whether or not condiments and flavouring matters were to be regarded as foods. (Applause.)

At this point the conference adjourned for luncheon.

On resuming the sitting, a discussion upon Mr. Elder's paper took place, several members expressing the opinion that there should be a standard issued by Somerset House, and that the label question was one demanding immediate attention.

In closing the debate, the president, Dr. Francis Vacher, said some of the speakers had been rather hard upon Somerset House, but there was great difficulty in adjusting the question of standards. With the authorities the feeling had been that if they published standards with reference to milk, those people who owned cows giving rich milk would water it down to the standard.

### "TRUTH" ON PALTRY FINES.

"It would be a blessed thing for the community at large if London magistrates appreciated a little better the responsibility with which they are entrusted in regard to enforcing the laws against adulteration, particularly in the case of milk. Mr. Lane, a gentleman who usually performs his duties with much sense and discretion, had before him last week a milkman charged with selling milk containing 10 per cent. of added water. This man had been only a year ago fined £3 and costs for a similar offence, but this time, for some inscrutable reason, he was let off with a fine of 5s. and costs. Such a punishment, and for an old offender, is merely playing with the law. The man has only to continue his evil courses for a day in order to recoup himself. The veriest bumpkin on a provincial bench can surely see that it is idle to attempt to check adulteration by fines, unless the fines bear some proportion to the profits made by adulteration. In the milk trade these profits are enormous. Let me give Mr. Lane and his brother

magistrates something that may possibly open their minds on this question. A public analyst, writing to me *apropos* of the above case, tells me that from his experience of the milk trade, he estimates that by means of watering milk the London public are robbed of anything from £100,000 to £200,000 per annum. It follows that in order to put a stop to this robbery, the London magistrates must at once set to work to impose fines to the aggregate amount of £100,000 per annum, and go on increasing the amount until adulteration ceases to be profitable. As the law only provides for a maximum penalty of £20 in each case, I confess I do not quite see how this is to be done; but it certainly will not be done by fines of five shillings. Let us make the best of the law at any rate. Personally, I have not the slightest faith in the possibility of suppressing adulteration by pecuniary penalties. The alternative of imprisonment should be available, and after the second offence I would have imprisonment without the option of a fine. Why not? It is a question of checking a most insidious and mischievous form of fraud, and one by which the lives and health of the people, and particularly of young children, are perpetually endangered. We send men to long terms of penal servitude for forgery and other fraudulent devices. The amount of robbery perpetrated by forgers in the course of a year is infinitesimal by comparison with that accomplished by watering milk. Besides, the forger generally robs a wealthy corporation, which is not much the worse for it. The fraudulent milkman practises chiefly upon the poor, who have not the means or the influence to bring him to justice.

### COFFEE AND 50 PER CENT. CHICORY.

At Alfreton Petty Sessions, Thomas Sabin, grocer, of Prospect-street, Alfreton, was charged with having sold coffee which contained 50 per cent. of chicory, at Alfreton, on the 21st of August.—William Marples went to the defendant's shop and purchased a  $\frac{1}{2}$  pound of coffee. The coffee was put into plain paper, and did not bear a label. The defendant's daughter supplied the coffee, and nothing was said about it being a mixture.—Colonel Shortt said he received the coffee from the last witness. He sent the coffee to the public analyst, who found it was adulterated with 50 per cent. of chicory.—Defendant, who pleaded ignorance of the law, produced a tin labelled "Coffee and Chicory," and said Marples was served with coffee from the tin.—Colonel Shortt, in reply, said the packet ought to have been labelled, or the seller ought to have said the coffee contained chicory.—Defendant was fined £1 11s., including costs.

Thomas James Robinson, grocer, of Russell-road, Garston, was summoned at Liverpool on September 29th, for selling adulterated coffee. It was stated that on the 6th ult. a female went into defendant's shop, and asked for a quarter of a pound of coffee. This was supplied to her, and on analysis it was found to contain upwards of 9 per cent. of chicory.—Defendant admitted the offence, but pleaded that there was no fraudulent intent. The wrapper stated that the coffee contained chicory, and he thought he was thereby protected.—The Bench imposed a fine of 10s and costs.

### ALLEGED ADULTERATION OF COFFEE.

At the Burnfoot Petty Sessions, Sergeant John W. Stevens was complainant in a summons brought under the Food and Drugs Act against James Wilson, of Sappog, charging him with the adulteration of coffee. Mr. P. Maxwell appeared for the defence. Complainant said that on August 20th he bought a canister of coffee from defendant, and divided the coffee into three parts, one of which he gave to defendant and another he sent to Dr. Hodges for analysis. The certificate of analysis showed that the coffee was adulterated with 72 per cent. of chicory. Mr. Maxwell: Have you the canister here?—No, I have not; I did not think it necessary. Was the canister which contained the coffee marked "chicory"?—I believe it was. Just like this one (canister produced by Mr. Maxwell)?—Yes, something similar. The defendant said that was the only sort he had.—Mr. Maxwell: And

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**MUSTARD SEED ONLY.**

CHAMPION & CO., so far as they are aware, are the only makers of importance who

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CHAMPION & Co. confine their attention to selling only Genuine Mustard Flour, milled and manufactured from Mustard Seed. They frequently sell 20,000 tins of such Mustard in a day in London alone.

To make CHAMPION'S Mustard, it is essential to use only the finest Mustard Seeds, inasmuch as chillies or ginger cannot be employed to produce pungency, nor can turmeric be utilised to secure high colour; consequently ripe and perfectly-coloured Mustard Seed only can be used.



was it sealed up when you got it?—Yes. Did you see any other coffee or chicory loose, I mean in a drawer or any place where it could be used for mixing?—No.—Mr. Maxwell then directed the attention of the magistrates to the label on the canister, pointing out that it was plainly labelled, "Choice blend of finest chicory and superior coffee." This was not adulteration so far as his client was concerned, and had already been decided so. He referred the Court to a decision on the point (the Larne case).—Colonel Tynte said the contents of the canister were plainly what they were sold for—a blend of chicory and coffee.—Mr. Maxwell: I ask your worship not only to dismiss the case, but to allow the costs. These prosecutions are paid for out of the county cess, and my client has no right to be put to any expense.—Colonel Tynte: Who directs these prosecutions?—Mr. Maxwell: The Grand Jury; the funds are provided out of the county cess. Colonel Tynte: We dismiss the case on the merits, and allow 10s. costs. The District Inspector asked for time to pay the costs; he had no funds to pay at present. Time was allowed.

### "MAZAWATTEE" COFFEE.

THE case of Mr. William S. Brown, grocer, Quay-street, Halesworth, who was charged on August 16th with selling to Superintendent Andrews half a pound of coffee as "pure," which was adulterated with chicory to the extent of  $2\frac{1}{2}$  per cent., came on for hearing at the Halesworth Petty Sessions on September 27th. The case, as readers of FOOD AND SANITATION will remember, had been adjourned owing to the divergence of the evidence of two analysts, and in order also that a sample might be sent to Somerset House. The coffee alleged to be adulterated was that known as "Mazawattee," and the defence had been undertaken at the instance of the Mazawattee Company. Mr. Keeble (of the firm of Messrs. Wynne, Baxter, and Keeble, London) appeared for the defence; while Mr. W. C. Tuck again conducted the prosecution. The clerk of the court (Mr. Ram) read the following certificate which had been received from the Government analysts:—"We hereby certify that we have analysed the coffee, and declare that in our opinion it consists of genuine coffee, and contains no admixture of chicory." The magistrates then dismissed the case. Mr. Keeble, addressing the Bench, said that the defendants and the Mazawattee Company had been put to very considerable trouble and expense in connection with the case, and bearing in mind the enormous adulteration that was frequently found in coffee and other articles, he thought the Bench would agree with him that with even the amount of adulteration which the prosecution alleged existed in the sample analysed by the county analyst, this was a ridiculous case to bring before the court. He would ask the Bench therefore to allow his clients the costs which they had incurred in defending the case. Mr. Tuck remarked that had this matter rested with a retail dealer probably no notice would have been taken, owing to the smallness of the alleged adulteration, but in the case of such a large company as the Mazawattee Tea and Coffee Company,  $2\frac{1}{2}$  per cent. adulteration meant a working profit, and would therefore be a serious matter. The Bench, after a brief consultation, decided to allow five guineas and costs, which would include the fee of 10s. 6d. paid to the officials at Somerset House.

### ALCOHOL IN TEMPERANCE DRINKS.

A CASE of considerable importance to manufacturers and sellers of "non-intoxicating" liquors came on for hearing at the Lancaster County Petty Sessions a fortnight ago, when James Warwood, shopkeeper, Morecambe, was summoned at the instance of the Excise authorities for selling alcoholic liquors without a licence. Mr. Alpe, of Somerset House, prosecuted, and said the action was brought under the Act of William IV., the penalties sought to be recovered being £10. In the first case of the kind brought by the Commissioners of Inland Revenue, and they had been induced to take proceedings because the manufacture and sale of these so-called temperance beverages—such as hop ale and herb beer—were largely on the increase in the neighbourhood. The object was to make manufacturers more careful to keep within the limit allowed by law, viz., two per cent. of alcohol. Defendant was a shopkeeper, and also had a stall on the sands at Morecambe, where he sold hop ale, herb beer, and similar commodities. On August 3rd, Mr. Eaton, supervisor, purchased from him a bottle of hop ale and two bottles of herb beer for the purposes of analysis. They were analysed at Somerset House, and in one case the proportion of alcohol or proof spirit was found to be 3.4 per cent., in another case 4.34 per cent., and in a third case 2.3 per cent. Samples of this kind of drinks had been taken which showed that in some cases they contained from 8 to 10 per cent. of proof spirit, whilst the strength of good ordinary beer was from 7 to 8 per cent., so that not only was there an evasion of the law, but these beverages were foisted upon the public as temperance drinks when they really contained more alcohol than ordinary beer. In the course of the case it was remarked that had the liquor been drunk instead of sent for analysis, the penalty would have been £25 instead of £10.—Mr. Eaton said he had warned defendant and all the sellers of these drinks that they contained alcohol, but no notice was taken of the warning, and therefore these proceedings were instituted.—Mr. Tilly, for the defence, said Mr. Warwood was innocent of any intention to evade the law. He bought the beverages direct from the manu-

facturer, and sold them as he bought them. It was, however, impossible to manufacture these beverages without alcohol, because the process of fermentation, which was one of the elements of their manufacture, produced alcohol.—Mr. Alpe pointed out that it was possible to make these drinks without alcohol, and stated that one well-known temperance "ale" contained only one per cent. of alcohol.—The Chairman (Mr. E. B. Dawson) said defendant had not intentionally done wrong, but these drinks were foisted upon the public as non-intoxicants, and no doubt hundreds of people were deluded. A fine of 10s. and costs was imposed.

### GROUND GINGER PROSECUTIONS.

AT Melksham Petty Session on September 27th, before Mr. W. B. Lee and Mr. C. Magg, Edwin John Lee, grocer, of Bank-street, was summoned under Section 9 of the Food and Drugs Act for having in his possession, on the 24th of August, a quantity of ground ginger, from which 40 per cent. of its essential ingredients had been abstracted.—Mr. Percy Cruttwell appeared to prosecute on behalf of the County Council.—Mr. Gatehouse (who had attended by defendant's request) was called, and verified the statements in the certificate produced. He was cross-examined at length by Mr. Jones for the purpose of showing the impracticability of stating a standard quality for ginger. Nothing material, however, was elicited. Mr. Jones called Mr. Lee to prove that the ginger as he sold it was just as he received it from the wholesale dealers. The Chairman said the Bench had no doubt whatever that defendant did sell ginger from which 40 per cent. of its proper ingredients had been taken away, and he was liable to take the consequences. At the same time they did not wish to make any imputation against Mr. Lee, who bought the article in perfectly good faith from a wholesale house. Regarding one remark by Mr. Jones, that it was procured from a respectable source of supply, he (the Chairman) was bound to say that it was not respectable to supply anybody with such stuff as that. The Bench inflicted a fine of £1 and costs.

### ADULTERATED LAUDANUM.

AT the Bradford West Riding Police-court on October 1st, Arthur John Powell, chemist, of Stanningley, was summoned under the Food and Drugs Act for supplying drugs not of the quality asked for.—Mr. Alexander Quinlan, inspector of foods and drugs under the West Riding County Council, said that he went into the shop of the defendant at Stanningley and asked for one ounce of laudanum. The defendant's wife, who was behind the counter, inquired what he wanted it for, and he said that he did not wish to poison anyone. He was then served out of a bottle in the shop, and thereupon he asked for four ounces, explaining that he wanted it for the purpose of analysis. The defendant's wife then consulted her husband, and the husband brought in a new bottle and told him that that was the same. The inspector, however, insisted on being served out of the bottle with which he had already been served with one ounce, and the defendant with some hesitation, and after some abusive language, served him, and refused to have the sample divided. The analyst returned a certificate that the sample contained a large proportion of morphine—the active principle of laudanum—but the spirit was 88deg. below proof instead of proof spirit, and was therefore deficient in alcoholic strength.—Mr. C. L. Atkinson, who defended, asked that the remaining sample of the drug might be sent to Somerset House for analysis, but the chairman (Mr. Theo. Peel) pointed out that the analyst's certificate was *prima facie* correct, and no evidence to rebut it had been called.—Mr. Watts, a chemist in the employment of Messrs. Reams and Co., wholesale druggists, of York, said that his firm supplied the defendant with some laudanum in April last. In the course of time laudanum would lose in alcoholic strength, but he could not say the laudanum in question was that supplied by his firm. In reply to the chairman he said that the drug when sent out would be made with proof spirit, and if he found that laudanum they had had in stock had evaporated to the extent of even 20 degrees below proof they would not send it out. The defendant in evidence denied that the drug had been tampered with.—The Chairman said the Bench was satisfied that the drug was not of the proper condition, and inflicted a fine of 5s. and costs.

### CONTRACTS FOR DISINFECTANTS.

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### NOTTINGHAM TOWN COUNCIL, ANALYST'S REPORT.

THE quarterly report of the borough analyst showed that three samples of water and 11 of milk had been analysed, six of the latter being found to be adulterated.

### BUTTER WITH 84 PER CENT. ADULTERATION.

AT Abingdon last week Charles Woodbridge, proprietor of the Globe Tea and Provision Stores, Bridge-street, was summoned for selling as butter a substance adulterated with 84 per cent. of foreign fats, in contravention of the Food and Drugs Act, 1875, and, secondly, for selling margarine by retail in a package not marked as required by the Margarine Act, 1887. Mr. F. W. Beck, of Lime-street, London, appeared to prosecute, and defendant, who pleaded not guilty, was represented by Mr. B. Challenor. The information was laid by William Gardner, an insurance broker, of 2, Nelson-square, Blackfriars, who came with his daughter to Abingdon, on August 25th, acting on instructions from Mr. Beck. —Miss Gardner said she went to Mr. Woodbridge's shop and asked for half a pound of shilling butter. An apprentice gave it her from a block. Outside the shop she gave the package to her father, who took it back, and, dividing it into three parts, sealed each in the presence of the manager, with whom he left one part. The substance she received was wrapped in plain paper, and she did not see the name "Margarine" on the block from which the half pound was taken. —Mr. Challenor submitted that it was a mistake on the part of the apprentice. Mr. Woodbridge took no active part in the business, but left it to the manager, but he provided marked paper for the margarine, and also large labels, which the witness must have seen. Quoting cases, he contended that the defendant was not liable for the wrongful act of his servant. —The Bench decided to convict, but exonerated Mr. Woodbridge from fraudulent intent or knowledge of the transaction. A fine of 5s. was imposed, with 11s. 6d. costs.

### THE REBATE QUESTION AND THE STAMPING OF WEIGHTS AND MEASURES.

A DEPUTATION of representatives of the Incorporated Society of Inspectors of Weights and Measures waited upon Sir Courtenay Boyle, Permanent Secretary of the Board of Trade, at the offices at Whitehall on October 2nd, with reference to the question of the rebate of the stamping fees, and with a view to securing uniformity in charges, and preventing manufacturers in certain localities from securing a partial monopoly, and to prohibit the practice of allowing discount for large quantities of glass and earthenware measures used by licensed victuallers. The deputation claimed that the question was one which keenly affected the inspectors all over the country. The law enacted, it was explained, that "no discount" should be allowed, but that did not appear to mean "no rebate." The uniformity of charges was broken a year ago, when a certain authority in the North of England had commenced to allow a rebate of 3d. in the 1s. The deputation also produced facts to prove that the spirit of the Act was evaded, and that rebates from 25 to 50 per cent. and as much as 25 per cent. were allowed. —Mr. T. Kyle, the chairman of the Incorporated Society, said the members of the society earnestly appealed for the abolition of that system which permitted such unhappy competition to obtain the Government stamp. At first the rebate was only allowed on glass and earthenware measures, but now it was asked for weights and weighing instruments. —Others composing the deputation alleged that the local authorities throughout the country were carrying on great competition with each other for the supply of the Government stamp, and each were cutting others out by allowing a little more rebate or reduction in prices. —Sir Courtenay, replying to the deputation, said he must be very cautious indeed in not encouraging even a body like the Incorporated Society to interfere or suggest interference with the discretion of other bodies. He was bound to feel that that day he had been asked to apply the influence of the Board to something like controlling the discretion of local authorities. The Board had inquired into the allowances made by some local authorities, but had been advised that they were not an infringement of the Act, nor could it be regarded either as "discount" or "rebate." The authorities were within their powers in making such allowances within their discretion, and the only remedy was to bring a challenge before the auditors of the various governing bodies. —The deputation, having thanked Sir Courtenay, then withdrew.

### WORD QUIBBLES AND THE ACTS.

JOHN KEEPIN, shopkeeper, of Kedington, appeared to answer two charges of having sold butter adulterated in the one case with 15 per cent. and in the other with 20 per cent. of fat other than butter fat on August 20th. The informations were laid by Superintendent Bardwell on behalf of the West Suffolk County Council under the Food and Drugs Act. —Mr. S. A. Graham, of Haverhill, appeared for the defendant, and at the outset, before the defendant entered the court, took exception to the form of the summonses, asserting that they were drawn under the wrong Act; it should have been the Act of 1875 instead of that of 1879. —This the clerk admitted, saying that it was a mistake on his part. —Mr. Graham asked for the summons to be dismissed. —The Chairman: But it would only involve the issue of fresh summonses. —

Mr. Graham: No, my client would be protected by the clause which provides that the summons shall be drawn twenty-eight days after the samples are taken. —The Clerk, however, expressed the opinion that no one had been misled by the error, and the chairman endorsing this view, Mr. Graham consented to waive the objection, as he thought a perfect answer to the charges could be made. He might, however, desire to have the case adjourned. Mr. Graham then inquired whether the prosecution intended to produce the public analyst. —Superintendent Bardwell: It is not my place to get him here. Section 21 will show that. —Superintendent Bardwell was then sworn, and said that on August 20th he entered defendant's shop and asked the defendant for a pound of butter. He said "What price do you want?" and witness asked, "How many sorts have you?" Defendant said "Two," and witness said, "I'll have a pound of each," with which he was supplied. He divided each pound into three parts, and told him that he (witness) had purchased the butter for the purpose of sending it to the public analyst. He left a part of each butter with defendant, after having sealed and stamped it. Witness took the four other parts away, and on the following day handed a part of each sample to the public analyst at Ipswich. He retained the two other parts, and produced the certificate of the analyst. The sample marked A was 1s. 2d. per lb., and that marked B was 1s. The analyst reported that sample "A" comprised the following parts: —Fat, 83.08; curds, 1.05; salt, 3.59; water, 12.28; and contained at least 20 per cent. of fat other than butter fat. Sample "B" was reported upon as follows: —Fat, 83.41; curd, .95; salt, 2.90; water, 12.74; and contained at least 15 per cent. of fat other than butter fat. —The Chairman: Then the shilling butter is said to be less adulterated than the higher-priced one. —Mr. Graham said he did not wish to cross-examine the superintendent. He, however, called Mr. Keepin, who denied that the superintendent, after purchasing the butter, specially intimated that he was going to send the samples to the "Public Analyst." —It was explained that, according to the Act, it was absolutely necessary to use the words "Public Analyst" or "County Analyst." —Supt. Bardwell cross-examined the defendant with the view of getting him to admit that he did use the words, but defendant persisted in his version. —The Superintendent indignantly expressed his surprise that Mr. Graham did not cross-examine him on the point when he was in the witness-box, and said he had been in the force 31 years and had never been treated so before. —Mr. Graham said that in his evidence Mr. Bardwell stated that he did use the words "Public Analyst," and he (Mr. Graham) was under no obligation to cross-examine him on the matter. —The Chairman expressed agreement with Mr. Graham. —Mrs. Keepin was then called, and in the course of her evidence stated that her husband asked the superintendent whether he was going to have the samples analysed, and he merely replied "Yes." She swore that he did not say he was going to send them to the public analyst. She remembered saying "I bought it for pure butter, and I hope it will turn out so." —Mr. Bardwell, in answer to the chairman, said he was absolutely certain that he used the words "Public Analyst." It was part of his duty to use them, and he had always been careful to make use of them. —The Chairman said the Bench were of opinion that the words were used, but thought that in the excitement of the moment Mr. and Mrs. Keepin might not have noticed them. —Mr. Graham then applied for the adjournment of the case, to allow of the samples being sent to Somerset House for analysis. —The case was accordingly adjourned for a month.

### THE SELECT COMMITTEE ON ADULTERATION.

#### CONTINUATION OF MR. GEORGE EMBREY'S EVIDENCE.

XIII.

(Continued from page 312.)

AM I correct in saying that his research extended to no less than 150,000 samples of milk? —Yes. —And that he gave as his opinion the setting up a standard much higher than even that approved by the public analyst? —The standard abroad, do you mean? —That he showed by these returns that the average standard was higher than that which you have mentioned? —That is so. —So far as regards Dr. Wanklyn's figures, they are too old to be worth considering, as you say? —Yes; the method by which the figures were obtained is now quite useless and quite obsolete. —Was I correct in understanding you to say that in America they adopt a standard of specific gravity? —Yes; in New York, I believe, a churn containing 100 gallons is the smallest quantity that is allowed to enter the city, and the specific gravity is simply taken of the milk in that churn. —I may be quite wrong on this, but I venture to ask you whether specific gravity is not another way of expressing total solids? —Scarcely. As the cream, the fat, increases the specific gravity diminishes, and as the curdy matter increases the specific gravity increases also; so that you may get water and skimmed milk, and get the same gravity as the other. —With regard to water in butter, you fix the maximum percentage that should be allowed at 16 per cent.? —Yes. —Do you find butter from any particular point more full of water than from other districts? —Australian and New Zealand butters rarely contain more than 9 to 10 per cent.; the very coarse salt Irish butters do go up to 18 and 20 and 22 per cent. Italian and Danish butter and the usual English butter average from 12 to 16 per cent. —You think that 16 per cent. could be safely fixed as the maximum? —Yes. —What would be the



cause of such a high percentage of water being present in Irish butter; would it be accidental or occasioned by mistake?—If I answer that it can only be from reading the results of the recent trial in Manchester, where, as you know probably, many methods were given by the witnesses there. It was suggested that in hot weather a large quantity of brine had to be used in the preparation of the butter, and they gave that chiefly as the reason why the butter contained so much water.—Have you examined samples of creamery butter made in Ireland?—Not to know that they are such.—Mr. Kilbride: I suppose of your own knowledge you know nothing whatever about Irish butter?—You are right.—How much salt, in your opinion, is necessary to preserve Irish butter?—I can give it you in percentages.—What is the proportion?—Not more than 2 per cent. It would depend upon the time it is kept, of course.—The length of time that it was intended to be kept, you mean?—Yes.—Would you say that for butter which it was intended to keep for three months 2 per cent. of salt would be sufficient?—I do not know that I have the means of answering such a question; that is rather a question for a butter-dealer; a chemist would not usually keep the butter three months. I could give you my opinion, but I am afraid that it would not be of any value.—What proportion of moisture is necessary to keep salt in a state of solution?—I must recollect the solubility of salt in water before I can answer that; one does not carry about piles of figures.—Colonel Bagot: May I ask you, as regards the amount of water that is in butter, does not it very much depend upon the way that the butter is made. I mean to say that butter made by a certain process, not as well as it might be made, would contain more water in it than butter made by a good process, although the person making it would not have any intention of adulteration?—Undoubtedly, if it is worked well, they get the water out of the butter.—Therefore a great deal of Irish butter that has a good deal of water in it might be really badly made butter, according to modern ideas?—It may be so.—With regard to your local analysis, you stated at the beginning of your evidence that Adulteration Acts were more enforced in Cheltenham than they were in Gloucester, I think?—Yes.—At Cheltenham the Acts would be carried out by the County Council?—Yes.—And at Gloucester by the Corporation?—That is so.—Do you think that the better carrying out of the Adulteration Acts at Cheltenham over Gloucester is owing to the fact that in the one place they are carried out by the County Council and in the other by the Town Council?—I think it is accidental.—What class of people do you think that the Town Council, generally speaking, would represent?—They are from most classes; there are some shopkeepers and some professional men, and some merchants; they are drawn from various classes.—Would they not as a general rule represent shopkeepers and tradesmen?—Of the 35 members of the Gloucester Corporation I do not think that more than five or six are shopkeepers. I am trying to think of the individuals. Five or six of them are shopkeepers.—Are you of opinion that a local body such as a Town Council might find it a rather invidious task to enforce the Adulteration Acts too much?—Yes; I think it is exceedingly difficult in a small city for the Corporation to carry out the thing properly, because it may be that some of their own body are people who have been adulterating; it does so happen.—It might possibly bring discredit upon some of their own friends?—Yes.—Who might be found guilty of adulteration without meaning it?—Yes; and as the direction to purchase frequently comes from a particular committee, people know when the purchases are going to be made.—Therefore you are decidedly of opinion, I understand, that some Government inspector should be able to assist local bodies in carrying out the laws, or to strengthen them in some way?—I think it is quite necessary.—To stimulate them, I should say?—Yes.—Mr. Kilbride: How is it that you arrive at the standard of 16 per cent. as the proper standard of water in salt butter?—Because I have never met with what I have known to be an English butter, either salt or fresh, that contains more than 16 per cent. however good it was.—Do you know the standard of water in butter at Somerset House?—We cannot get at their standard. Occasionally in certain prosecutions they have said 16 per cent., and 18 per cent. was fixed once.—Are you aware that it has been given in evidence before this Committee that Somerset House has no standard of water?—I am not aware of that. Somerset House officials have given evidence, and fixed certain standards in trials.—Would you hold that salt butter containing more than 16 per cent. of water was adulterated?—I should.—Would you hold that water was added with the intention of adulteration?—Or carelessly added, without knowing that it would increase the weight.—In other words you would say that the water was not sufficiently extracted?—Just so.—The only reason why you come to that conclusion is, because in your experience of English butter more than 16 per cent. of water has never been shown in salt butter?—Yes.—And because more than 16 per cent. of water has never been shown in English salt butter, therefore Irish butter containing more than 16 per cent. of water is adulterated, in your opinion?—I think that is a fair conclusion.—Do you think that the climate has anything to do with the quantity of water that there is in butter, climatic conditions at the time the butter is made?—It has been said so, but I cannot say of my own knowledge; nor do I know of any great variation between the climate of Ireland and that of the extreme West of England. The climate of the extreme West of England in humidity of temperature is very much like that of Ireland.—Have you been much in Ireland?—I know it fairly well.—Mr. Kearley: Do you know the climate of Denmark?—

No, I do not; I have not been to Denmark.—You stated, in answer to the honourable Member opposite, that your experience of New Zealand and Australian butter was that it only contained from 12 to 14 per cent. of water?—Not that much; it rarely exceeds 12 per cent.—Do you think that the dryness of the Australian and New Zealand climate has anything to do with that?—No, I do not; I think it has to do with the excellent manner of making it, which is revealed by breaking through a piece of butter, and looking at it.—Then I understand that the butter makers of New Zealand and Australia are far beyond the butter makers of England?—The butter is more uniform in character.—You say that the only reason why there is only 12 per cent. of water in it is due to the fact of the excellent making?—It is better made butter.—But there is more than 12 per cent. of water in English butter?—Yes.—Does it follow from that, that in Australia and New Zealand butter is better made than it is in England, because it has less percentage of water in it?—The Australian and New Zealand butter brought to this country is certainly better made than the average English butter.—I am surprised to hear that, I must say?—I do not say that the flavour is such as will be accepted by Englishmen, but it is certainly much better made butter.—Have you any opinion to give the Committee with regard to the colouring of margarine; whether the colourisation is in your opinion an adulteration?—I would prohibit colouring in everything.—Either in margarine or butter?—In margarine, butter, milk, or sweets; in anything I think it is a mistake, because it opens the door to an immense amount of fraud. The colouring is put in to simulate something else. Even in the case of butter, I can remember 40 years ago when coloured butter would not have sold in Birmingham; the taste and demand was for something very nearly white, as white as it could be made. It may have changed since then, but I well remember that the butter was nearly always white like tallow.—Colonel Bagot.—At that time there was little or no foreign butter imported, was there?—No.—And the case is quite different now?—No doubt. At the time that I am speaking of, the high class farmhouse butters made in Warwickshire were made without any colouring at all; in fact, had they put colour into them the people would have been suspicious; but that is changed now.—And because foreign butter would be coloured, the English butter if uncoloured would not sell?—It would not.—Mr. Kilbride:—But you would not hold that colourisation in butter is adulteration?—Yes, I would, though I could not report it as adulteration.—Chairman:—That is only your personal opinion?—Yes.—Mr. Kilbride:—At what temperature do you think that butter ought to be made to contain only 12 per cent. of water?—I am not a butter maker.—You do not care to answer the question?—No; I am always about in farms, but I am not a butter maker.—Colonel Warde:—I think you stated that the chief difficulty that the inspectors and analysts have to deal with in procuring samples, is owing to the fact that their purchasing agents are known or suspected, so that they are often supplied with a better article than that sold to the general public?—Yes.—Would it be advisable that the persons purchasing for the authorities should be empowered to seize any sample that they may select for analysis instead of having to purchase it?—I think in the case of butter it is very necessary that the inspector should go into the shop, and take up any parcel he pleases and tender money for it, and have an analysis made. That would answer almost every purpose in the case of butter.—Mr. Lambert:—Why did you say just now that it was almost as much as an analyst's situation was worth to quarrel with Somerset House?—I say that if Somerset House happens to reverse his decision, if he happens to be not a very strong man, or a new man serving a small authority, the inference and the reasonable inference would be that he was wrong and Somerset House right; but it may not be so, and is not always so.—Somerset House or their advisers, I presume, would be composed of competent analysts?—I should say so from what I know of them.—Would it be at all the general rule that the local analysts would differ from the Somerset House analysts?—I have never had any conflict with them myself, but there certainly have been cases of disagreement.—Chairman:—In referring to hotels and restaurants, and the sale of adulterated articles there, especially adulterated butter, are you aware of any prosecutions that have been instituted against these bodies?—I believe that Marylebone or Clerkenwell, in one of those two districts of London, some prosecutions have been instituted against coffee-house keepers.—And in Birmingham?—I do not know of any in Birmingham.—Do you know the result of any such prosecutions?—I believe that convictions were obtained in London in the case of coffee houses.—Against those people for selling margarine as butter?—Yes.—Sir Charles Cameron: I am just going to ask you one question. You mentioned just now that you thought it would be a great improvement if the inspector could take his own sample in the case of butter, and not be dependent upon what was served out to him?—Certainly.—So that is a principle that you would apply to everything, or would you confine it to butter?—It is not so necessary in the case of other things, but in the case of butter it would meet the whole difficulty.—You are aware, surely, that under the Margarine Act the inspector can demand a sample without going through the form of purchase; he has that power already?—But he cannot seize it.—But he can demand it, and refusal is not possible?—I do not know why it is, but the authorities prefer to proceed under the Sale of Food and Drugs Act rather than under the Margarine Act.—But you make a demand decidedly in the



case of butter; you do not extend the principle, or at all events you do so with reserve. In the case of butter there is the power which you ask for, and if it is not availed of it is not a defect of the law apparently, but simply from unwillingness on the part of the authorities to avail themselves of it?—Yes.—Colonel Bagot: With reference to those hotels and eating-houses and so on, is it not the case that the adulterated butter would be used in the kitchen, and for eating purposes, spread on bread, and so on, but that it would be almost impossible to obtain a sample of it, because they do not sell butter?—Margarine is put on in many cases, I am certain. I have taken samples myself and analysed them, and I am certain that margarine is put into the little round pats that are put on the tables for customers.—Could not the inspector go into one of those eating-houses and take one of those pats?—I do not know.—Do you know how the prosecutions were obtained in Marylebone that you alluded to?—I believe that the inspector went into a coffee-house and asked for sixpennyworth of bread and butter, and then said that he was going out into the country, and would prefer to have the bread by itself, and the butter by itself. I believe that was the course adopted.—Mr. Kilbride: You stated something about the Manchester cases; are you aware that it was proved in the Manchester cases and sworn in court, that a sample of butter made at McElligott's Creamery in Kerry, analysed with the newest and best appliances, was, immediately after it was made, found to contain more than the standard percentage of water that you have set up?—It was very little over 18 per cent. I read the whole of the evidence, but so far as my memory serves me, it was very little over 18 per cent.—You suggested that the cause of so much moisture being in Irish butter was due to the fact that it was not so well made as English or foreign butter?—I was referring to the coarse salt butters made and sold at very low prices.—I ask you whether you are aware that that butter was made at McElligott's Creamery in Kerry with all the latest appliances, and that a sample taken immediately after it was made was proved to have a higher percentage of water than that which you have laid down as your standard?—I do not remember that particular fact.—In that particular case, at all events, you could not hold that it was badly made butter, or owing to the want of the very newest and best appliances?—I cannot say without knowing the case.

MR. RICHARD BANNISTER RE-CALLED.

Mr. Channing: There was a question which you wished to consider further with regard to the testing of the fats by the saponification method, whatever that may be; I asked you a question as to the figures used by the American analysts, and especially as to the number of 227 milligrammes of potassium hydroxide to test the quantity that butter would absorb, as compared with other fats that absorb less; and I think you said that if I asked you the question to-day you would answer it?—I shall be very happy to do so. The 227 milligrammes there mentioned is in connection with a test called the Koettstorfer's test, and the number is 227; that refers to butter fats. But when we come to look at the table itself we find that that 227 is the average of the butter experiments; the minimum is 221.5 and the maximum 232.4. I think you will find that the average of those two figures is 226.9.—May I ask over what range these experiments appear to have been taken, over a very large range, or over a limited range?—Over a very large range of different kinds of butter, and also of different kinds of fat. I thought you would like me to work out the results as given above when I explained the difficulty that there was of determining a small quantity of foreign fat in butter. If we take those figures, the minimum figure of 221.5 and the maximum figure of 232.4, between them you would be able to put into the better description of butter about 30 per cent. of foreign fat to make it come up to the higher one.—That amount could be let in without detection?—Without detection.—Would it be of use if you were to state the average figures for the other fats?—I can scarcely understand about the other fats; lard oils, and the oils to which the test was applied.—The oil, I understand, takes a larger quantity, but the organic fats which are used for adulteration take a less quantity, I understand?—Koettstorfer's number for the butter fat is 241 to 253, and in the case of arachis, or earth-nut oil, it is 235 to 296; but, so far as this test is concerned, after looking it over very carefully and trying it ourselves, and also after comparing the results of other examinations by other chemists, it is put on one side as not being a sharp test for the detection of foreign fat in butter.—Am I not right in thinking that the figure for the ordinary fats used in the manufacture of margarine, which are introduced as adulterants into butter, would be very much less than 227?—Yes, it would.—What would be the figure?—If you will allow me, I will look at the full table; I have got the authority here. In the case of lard it would be 492.0 to 196.5; tallow, 193.2 to 198.0; butterine, 193.5 to 196.5; and butter fat, as I said before, 221.5 to 232.4.—By butter fat you mean the fat present in pure butter?—Yes.—I do not speak as a chemist or analyst, but does not the relation of those figures of the adulterating fats seem to range from 190 to 198, and of butter from 221, I understand you, up to 240; does not that test therefore at once mark off the fat present in pure butter from adulterating fat?—No; there are other fats to be taken into consideration in connection with the equivalent of the fats that are present; and, after a very careful examination of the process, it has been abandoned as not being a sharp test for the presence of foreign fats in butter.—What is the sharpest test that you do apply?—I think that the sharpest test of all is the estimation of the soluble acids in butter, that is to say, the acids soluble

in water.—Is that the test that you referred to when you said that you had to take the physical condition of the butter into consideration as well as the results of the analysis?—That is so.—Mr. Jeffreys: With regard to the solids in milk, I see you stated that the standard might be 8.5?—Will you kindly tell me the number of the question?—It is at page 39, Questions 591 and 592?—Yes, I have it.—Would not that be rather a low standard?—For some descriptions of milk, yes. Another gentleman, an analyst, Mr. Preston Thomas, told us that he would suggest 11.5?—That is for solids not fat and fat. What would you make your standard for solids not fat and fat?—We make it 8.5 for solids not fat, and 2.75 for fat.—Would you not be afraid that if you appointed a standard of any description, say 11.5 for total solids there would be a great fear of rich milk being watered down to that standard?—There is no doubt that there would be.—How would you avoid that, because it would be clear adulteration?—I am rather opposed to fixing a standard for milk, because we get some milks that are very rich in solids not fat and fat, and there is no doubt that persons who sell the milk to the public water those milks down to something that they think is the standard of 8.5 and 2.75.—Can you detect when a rich milk is watered down to this standard, by the adulteration of water in it?—We cannot.—Neither can you when it is adulterated with skim milk or separated milk?—We cannot quite. Still less in that case could you?—There would be a different relation between the solids not fat and the fat. The solids not fat will largely increase, and the fat will be rather extraordinary in its relation to the solids not fat. For instance, it may be in this way: that you would have solids not fat 9 or 9.2, and the fat would be down perhaps to 2.75 or 2.80.—Then if we were to fix a standard by Act of Parliament, there would be a great fear, would there not, lest adulteration should be legally increased?—Yes; and there is a difficulty on the other side as to whether you would exclude cows that were not giving a milk which came up to that particular standard or limit.—Mr. Kearley: What standard do you suggest that the people will have watered down to, the lowest known standard?—No, they do not water down, as a rule, to the lowest known standard, because they have to compete with their neighbours, therefore they have to take two things into consideration, the watering down, and also the price at which the milk is sold.—Mr. Jeffreys: But at the present time, if any water is added to the richest milk it is still adulteration, and punishable as such?—It is still adulteration, and punishable as such.—Therefore, I suppose if Parliament were to appoint any standard, you would yet reserve the power to punish people who were detected in adulterating milk with water?—That power ought to be reserved.—Otherwise, of course, as you said just now, all the rich milk would be adulterated naturally down to the standard?—There is no doubt about it.—And in your opinion it would be rather unwise to appoint a standard at all?—I am not in favour of a standard.—That is from your experience?—That is from my experience.—With regard to the milk as it comes from the farmer, in your experience is it adulterated by the producers, the farmers, or is it adulterated by the retailers?—I think it is adulterated chiefly by the distributors, the retailers.—It comes to them to a great extent pure you think?—It comes to them to a great extent pure. There is no doubt that some farmers do adulterate, but I think it is not the rule for them to adulterate.—With regard to butter, may I ask you are samples of imported butter taken by the Customs officers and analysed?—I have made inquiries since I was here last week, and I find that they are not, not so far as the Adulteration Act is concerned. Where there is any error in the description, or the locality, or anything of that kind, then samples may be taken; but I am told that so far as adulteration is concerned, samples are not taken by the Custom House officers.—Would it not be a very wise step if samples of foreign butter were taken by the Custom House officers?—It is a very large question, and requires a great deal of consideration, because there is a great quantity of butter imported, and it is a perishable article.—I do not mean taking samples of every cargo that is landed; I mean taking samples generally or occasionally, as samples are taken now by inspectors in towns?—There is this difference between the two: that in one case it is done by the local authority and in the other case it would be done by the Government; and up to the present time the Government have not done it.—But do you recommend that they should do it; would not that be rather a check upon this importation of adulterated butter?—I am strongly in favour myself of the Adulteration Act being made as stringent as possible, and working under it, rather than interfering with the butters at the port of import.

(To be continued.)

THE Health Committee of the Cardiff Corporation, at their meeting recently decided not to proceed with the appeal against the decision of the magistrates in the recent prosecution of Mr. J. Walters, grocer, for the alleged sale of adulterated ginger.

#### JEYES' DISINFECTANTS: MORE AWARDS.

A SILVER medal has been awarded at the Oswestry Agricultural Society's Show to Jeyes' Sanitary Compounds Company for disinfectants. The company has also been awarded a certificate of merit for disinfectants at the annual exhibition of the Sanitary Institute held at Liverpool. The total number of awards is now no less than sixty-four.



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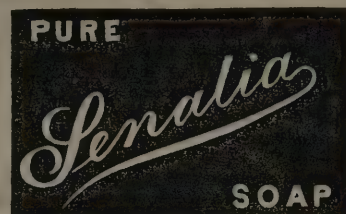
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# Food and Sanitation.

SATURDAY, OCTOBER 13TH, 1894.

## THE WARRANTY GAME.

It seems incredible that there could have been found, even amongst the rakers in our national dust-heap, a sufficient number of right honourable and honourable gentlemen to endorse and send forth in an Act to suppress fraud, such a thing as the warranty clause in the Sale of Food and Drugs Act. Nobody, of course, could be surprised at any blithering idiocy on the part of those wondrous creatures, the parliamentary draughtsmen, but there is method in their madness, just as there is in the travelling tinker, who charges twopence to repair one hole in a saucepan, and takes care that whilst doing his job he lays the foundations of another hole or two that will need repair against his next visit. If Acts of Parliament were sensibly draughted, and their authors really wished them to be serviceable weapons and for the public benefit, those vultures of civilisation, the lawyers, would have less excuse to ply their licensed nefarious calling, and the parliamentary draughtsman would find much of his occupation gone. One of the most perfect triumphs of the draughtsman's art is surely this very warranty clause of the Food and Drugs Act. If right honourable and honourable gentlemen had been the victims of a momentary affliction of common-sense, the

warranty must have been scouted as the thieving thing it is, as the easiest of all methods of swindling the public. Consider the gorgeous simplicity of it, and the fact that without any exposure whatever, without even a single protest, it became a part of an Act of Parliament. Anyone wishing to practise adulteration can by its aid do so without a particle of risk, and can rob the public under the protection of the very Act alleged to be intended to punish adulteration and make it impossible. Take as an example any milk vendor who wants to work a swindle on a colossal scale in London. He has only to arrange with the farmers from whom he draws his supplies that they shall supply him with adulterated milk, either skimmed or watered, at a commensurately lower price per gallon than his honest competitors pay for genuine milk, and that the farmers send with each churn a guarantee that the milk is pure, and he can sell to the public the adulterated article at the price of genuine milk and snap his fingers at inspectors and the whole Adulteration Acts, because he can produce in court the warranty from the farmer that the milk was sold to him as genuine. He can pose as the deeply injured victim of a farmer's turpitude, and leave the court an injured innocent, spotless in reputation and dowered often with the sympathy of the magistrate. The common or garden ignoramus who writes leaders in the *Times* or *Daily Telegraph*, or lectures at this congress or that meeting upon sanitation, adulteration, etc., extends his sympathy also to the swindling retailer and "Scotch Feelosofers" of the Sir C. Cameron, M.P., order, are so enamoured of the beauties of the warranty that they wish even to make one of every invoice.

It is pleasing to find that this universal blindness as to the real working of the "warranty" is at last disappearing and that our long efforts to expose it are having good results. Two years ago no London magistrate would have dared to treat a warranty with contempt, but Mr. Bushby did so the other day. We grew almost tired of recording prosecutions for milk adulteration with the invariable production of a warranty from the farmer, which warranty, although vendors sold adulterated milk, enabled them to escape punishment. Inspectors grew just as tired of attempting to secure convictions of certain vendors, because they well knew, however flagrant the adulteration, a warranty defence would always be pleaded and the vendor would triumph. The following, from the *Daily Telegraph* of October 10th, will be a surprise to many London Food and Drugs Act inspectors and a warning to milk dealers.



Our contemporary says:—"There are some self-martyrs who imbibe voluntarily what is called unfermented wine; and it may be that there are other classes of the community who prefer what may be called unlacteal milk. In such things everybody is allowed to gratify his own taste. If any persons in Poplar like the last-mentioned article, they will, unfortunately, be unable to gratify their palate any more, for Mr. E. Handsley, trading as the Callow Park Dairy Company, has been fined, and it is not likely that the fluid will be on sale any longer. It was euphemistically called 'separated milk,' but should, to be in keeping with its real character, have been termed 'separated water,' as it consisted largely of the last-mentioned fluid, from which the milk had been extracted. One of the samples submitted to Mr. Bushby, the magistrate, was admitted by two witnesses for the defence to be "rather poor even for skim-milk," which indeed must have been the case when nearly one half of it was water. Mr. Handsley's defence was that he sold the article exactly as he got it off a man who had butter manufactories at Winslow and Armytage, and from whom he received a guarantee, which he exhibited as his protection. Mr. Bushby held it to be preposterous for a dealer, who knew that by the Act of Parliament he was not permitted to sell what was otherwise than pure milk, to think he could vend a mixture containing 38 per cent. of added water without attracting attention. He was ordered to pay a fine of 10s., with 23s. of expenses. The price of the fluid was certainly cheap, but at that rate it will be cheaper not to sell it."

We quote the *Daily Telegraph* merely for the fact. As to its conclusions—that a fine of 10s. and 23s. expenses make it cheaper not to sell adulterated milk—well! anyone who knows anything of the subject will feel some pity for the *Daily Telegraph's* young lion who can find in 33s. fine and ex.'s a deterrent against the profitable practice of adulteration. Why, Mr. William Brown has been fined the full £20 penalty times over, and we have yet to learn that it has deterred him.

Were the *Telegraph* and *Times* twaddlers to take a little trouble to learn something useful, they would know better than to write rubbish about 33s. penalties suppressing adulteration. A vendor of adulterated milk could make up the fine and costs in a few hours—and some do it in a few minutes.

#### SUPPRESSING "SPENT GINGER" ADULTERATION IN SCOTLAND.

At Glasgow Sheriff-court on October 4th, before Mr. Sheriff Substitute Birnie, William Hamilton, grocer, 61, Main-street, Anderston, was charged at the instance of Mr. Peter Fyfe, sanitary inspector, with having on August 31st sold to inspector William Armstrong, a quarter of a pound of ground ginger which, on analysis by Mr. R. R. Tatlock, was found to contain 65 per cent. of exhausted ginger. Hugh Morrison, the manager in the shop, said that Mr. Hamilton had been an invalid for the last six years, and was not able to appear in court. Mr. Morrison said he would plead guilty. He bought the article which he supplied to the sanitary inspector as ordinary ground ginger, and he produced an invoice from the wholesale firm who supplied it, showing that it was invoiced as such. The Sheriff said that he should have got a guarantee as well. Mr. Morrison said that it had not been the custom of the trade to get a guarantee along with ground ginger, as it was quite a new thing to put spent ginger into it. Mr. John Lindsay, assistant clerk of police, who prosecuted, stated, in reply to the Sheriff, that when ginger had been treated in a solution of weak alcohol and the essence abstracted, the remainder was dried and ground down and sold as ginger, when really, on account of the abstraction of the essence, it was not ginger, but ginger fibre. The ginger taken out of it was sold as essence of ginger for flavouring, so that really the same article was sold twice. The prices of ground ginger were from 8d. to 1s. 4d. per lb., and exhausted ginger was usually sold to ginger-beer makers at prices ranging from 1½d. to 2d. per lb. The inspector was charged 8d. per lb. for the ginger which he bought from respondent. Mr. Morrison said that the respondent paid 6½d. for it. Mr. Lindsay said that the expenses in connection with the prosecution amounted to £1 4s., part of which was the analyst's fee. The Sheriff asked if the police commissioners were not going to get a clause inserted in the Act so that a respondent could intimate that he was going to plead guilty, and thus save the cost of the analysis. Mr. Lindsay said that the prosecutor could not tell until after the analysis

whether or not the article was adulterated. He could not, for instance, have asked Mr. Hamilton to admit that the article which he had sold contained 65 per cent. of exhausted ginger without having had it analysed. Of course his Lordship's suggestion held good as regarded margarine cases where persons were simply charged with exposing the article. Mr. Lindsay pointed out that about six weeks ago two prosecutions for the sale of exhausted ginger were brought before Sheriff Balfour, and publicity was given to them. Mr. Morrison said that he had never heard of spent ginger being on the market until the sanitary inspector directed his attention to it. Mr. Lindsay said he had no reason to suppose that the respondent knew that the ginger was adulterated. The process was so elaborate that it would require to be done by a wholesale merchant. Mr. Morrison said that the ginger was ground in London, and sent from there. The Sheriff imposed a fine of £1 15s., which was paid.

#### BEETROOT SUGAR GROWING IN ENGLAND.

THE analytical report of Dr. Schack-Sommer on the sugar beetroot which has been grown this year on Lord Winchilsea's Cable Farm, shows that this root can be cultivated in England with success. The analyst says that all three kinds which have been grown on the Cable Farm compare most favourably in weight, as well as in saccharine contents and purity, with roots grown by Mr. Licht in Germany, which have been taken as the standard of comparison. In every instance the percentage of sugar was higher in the English-grown than in the German-grown roots.

#### HOW FOODS AND MEDICINES ARE ADULTERATED.

IN his report to the West Riding County Council, Mr. A. H. Allen cites cases submitted to him for analysis of castor oil and pills destitute of castor oil, of seidlitz powders not in accordance with the British pharmacopœia, of tincture of rhubarb deficient in alcohol and extractive matter (which involves a risk of incompletely extracting the active ingredients of the drugs), of sweet spirit of nitre almost deficient in nitrous ether, ground ginger with 5 per cent. of sand and extraneous matter, coffee with 80 per cent. of chicory, etc. Food and drink samples submitted showed in many instances similar results, and in all such cases fines had been inflicted.

#### TINNED FOOD POISONING AT LEEDS.

IN his report on analyses made for the city of Leeds during the quarter ending September 30th, 1894, Mr. Thomas Fairley, borough analyst states that:—Samples of tinned pears were adulterated with tin and zinc, one containing 4½ grains of zinc and ½ grain of tin per pound, whilst the other contained rather over ½ grain each of tin and zinc per pound. The samples of tinned pears containing zinc caused violent sickness. The presence of zinc can only be due to carelessness in the soldering or in selecting the tin-plate used. The organic acids in tinned fruit have a powerful action on zinc or on very impure tin. The other samples were reported as genuine.

#### THE ESSEX ANALYST ON LARD ADULTERATION.

UPON the subject of lard adulteration Mr. Pooley reports that beef stearine is occasionally added to refined lard with the object of stiffening. Hitherto he has not certified such lards to be adulterated, because there is no legal definition of lard, and also because justices in Essex seemed indisposed to convict when the percentages of adulteration were very small, and especially when the adulterant was perfectly harmless and answered the same purpose as the genuine article, as was the case with beef or mutton stearine in lard. It was to be hoped that before long the Legislature would lay down some precise definition of the various articles of food. He had occasionally instructed an inspector to ask for "pork" lard, and there would in such cases be no legal difficulty in obtaining convictions if beef stearine were detected in the samples. In the future he would suggest that more samples of "pork" lard should be purchased. The report was adopted by the Council.

#### THE "SPENT GINGER" CRUSADE.

AT Burslem, Charles Fenton Wright, grocer, Newport-lane was charged upon two summonses with selling ginger which was not of the nature, substance, and quality of the article demanded, and with being in possession of an article from which a portion had been extracted, injuriously affecting its quality, and selling it without making a disclosure of the fact. Mr. E. W. H. Knight, inspector under the Food and Drugs Act, prosecuted, and his assistant, Samuel Benison, proved purchasing from the defendant some ginger which was afterwards submitted to the county analyst (Mr. Jones), who certified that the sample contained 20 per cent. of spent or exhausted ginger, viz., ginger from which the pungent and aromatic qualities had been abstracted by solvents, probably for the purpose of flavouring ginger-beer. The defendant said he bought the article in tins as genuine ginger, and sold it under the belief that it was genuine. The Stipendiary said the defendant had his remedy against the person from whom he bought the ginger. The public, however, must be protected, and he fined the defendant 40s. and 20s. costs.



# POTASSIUM PERMANGANATE, THE NEW ANTIDOTE TO MORPHINE.

## REPORT OF EXPERIMENTS.

BY GRAHAM CHAMBERS, B.A., M.B.,

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THIS article was originally suggested by the published results of certain experiments carried on by M. J. Anthal, an Alsatian chemist, by which he claimed that potassium permanganate was an efficient antidote to a number of alkaloids, as well as to phosphorus and oxalic acid. These investigations were further continued by Dr. Moore, of New York City, in a report as to action in particular on morphine, and he further compelled attention, professional and otherwise, by taking three grains of morphine openly, followed by the antidote, and sustaining no ill effects through the action of the drug.

I might state here, before describing my experiments, that they confirm those of Dr. Moore as regards morphine; at the same time, I have brought out some new facts that may be of use to the profession.

To discuss the subject thoroughly, it is advisable to first consider the chemical properties of morphine and potassium permanganate which pertain to their action upon one another.

Of all the vegetable alkaloids, morphine is the most easily oxidised. Indeed, it is so easily acted upon by oxidising agents that iodic acid  $\text{HIO}_3$  will oxidise it, iodine being liberated. This is a distinguishing test for morphine. I might say that a ptomaine has been recently isolated which has a similar action upon iodic acid.

Potassium permanganate  $\text{K}_2\text{Mn}_2\text{O}_8$  is one of our most active oxidising agents as it corresponds to manganese heptoxide  $\text{Mn}_2\text{O}_7$ . Now, when this comes in contact with any substance which is capable of oxidation, it gives off oxygen, becoming reduced to one of the lower oxides of manganese, or, in the presence of acids, to salts corresponding to the lowest oxide.

The action of potassium permanganate upon some alkaloids is fairly well known. With quinine, cinchonine, quinidine, and cinchonidine, it forms pyridine tricarboxylic acid (1, 2, 3). In order to ascertain the action of potassium permanganate upon morphine, I performed the following experiments:—

**Experiment 1.** I dissolved half a gramme (7.7 grs.) of morphine hydrochloride in 250 c.c. of water, acidified with hydrochloric acid. Then I gradually added a solution of potassium permanganate of same strength, i.e., two grammes per litre. At first the violet colour quickly disappeared, but as I added the permanganate the colour disappeared more slowly. When an equal quantity of permanganate was added the violet colour remained for two or three minutes. When the solution became colourless I tested part of it for morphine by adding ferri-chloride and then potassium ferri-cyanide, which is a test delicate to at least one in 100,000. I also confirmed the result by making the remaining part of the solution alkaline with potassium carbonate, shaking with a mixture of equal parts of ether and acetic ether, separating the ethers, allowing the ethers to evaporate, and testing residue for morphine, with negative result.

From these experiments we conclude that morphine is decomposed by potassium permanganate, and the question arises, what becomes of the morphine? Our chemist states that it forms pyridine tricarboxylic acid  $\text{C}_5\text{H}_2\text{N}(\text{COOH})_3$ . However, that does not appear to be correct.

**Experiment 2.** I added to the solution, as in Experiment 1, white of egg, cane sugar, grape sugar, starch, and acetic acid. I then repeated the experiment, using the same quantity of potassium permanganate, with the same result as in Experiment 1.

**Experiment 3.** Next, to determine the action when potassium permanganate is added to a neutral solution of morphine hydrochloride, I dissolved 1 decigramme of morphine hydrochloride in 100 c.c. of water, and gradually added the potassium permanganate solution. At first the liquid appeared green, due to potassium manganate. Afterwards a bulky, black precipitate, which consisted of manganese dioxide  $\text{MnO}_2$ , and manganous manganite  $\text{Mn}_2\text{O}_3$ . When the solution remained violet for a minute I filtered and tested the filtrate for morphine, with negative result.

Having proved that morphine was decomposed by potassium permanganate, I performed the following experiments with a view of ascertaining the toxic action, not only of morphine and potassium permanganate, but also of the new substance or substances formed by the action of potassium permanganate on morphine.

### TOXIC ACTION OF POTASSIUM PERMANGANATE.

As a rule a chemical antidote must not be an active poison to be of therapeutic use. When a strong solution of potassium permanganate is applied to a mucous membrane it corrodes it. However, a dilute solution (1-500) has no corrosive action, as may be shown by holding it in the mouth several minutes without corrosion of the mucous membrane, nor discoloration of the permanganate. With a view of ascertaining its toxic action internally and hypodermically, I performed the following experiments.

**Experiment 4.** To dog of 39 lbs. I give 6 grs. of potassium permanganate dissolved in 6 oz. of water by the stomach, without any deleterious result.

**Experiment 5.** Two days after I gave the same dog 3 grs. of potassium permanganate subcutaneously in the neck. In about two hours he appeared drowsy and weak. Next morning, fourteen hours afterwards, the dog vomited, and showed muscular weakness and inco-ordination. The latter was so marked that he had to support himself against the fence. Micturition was frequent, and the urine was found to contain bile-colouring matter, and a very small amount of albumin. These symptoms remained constant for about thirty-two hours, when he gradually recovered.

**Experiment 6.** To a dog of 20 lbs. I gave 5 grs. subcutaneously. The symptoms were similar to those in Experiment 5, but more marked. The dog died in the night, thirty-eight to forty-four hours after administration of the drug.

### TOXIC ACTION OF MORPHINE.

**Experiment 7.** To 39lb. dog I gave, subcutaneously, 5 grains of morphine hydrochloride. In about half a minute the dog appeared excited, and kept moving its tongue and jaws, with a free flow of saliva, which was followed, in about five minutes, by deep sleep, which lasted about three hours. Nearly all reflex actions were abolished. The respirations were more frequent than normal at first; afterwards, less frequent. When the narcosis was passing off, the dog would occasionally start up, especially at any noise. Afterwards the dog suffered from partial paralysis of hind leg. With drooping tail, he appeared to drag his hind legs after him, assuming the position known as "hyenoid."

### TOXIC ACTION OF THE NEW SUBSTANCES FORMED BY THE ACTION OF POTASSIUM PERMANGANATE ON MORPHINE.

**Experiment 8.** I dissolved  $\frac{1}{2}$  gramme (7.7 grs.) of morphine in about 250 c.c. of water, acidified with hydrochloric acid, and then added  $\frac{1}{2}$  gramme (7.7 grs.) of potassium permanganate dissolved in same quantity of water. When the solution became colourless I added potassium hydrate until alkaline, which precipitated the manganese. I then filtered and washed precipitate with hot water. The filtrate was evaporated down to about 50 c.c., which I injected, subcutaneously, into a dog, without any marked symptoms.

**Experiment 9.** Four days after the preceding experiment 2 gave the 39lb. dog, by stomach, 5 grains of morphine hydrochloride, and then, immediately, 6 grains of potassium permanganate dissolved in about 6 ounces of water. No symptoms of morphine poisoning followed, nor were there any other symptoms, except one or two ineffectual attempts at vomiting.

### CONCLUSIONS.

- (1) Potassium permanganate in dilute solution, not stronger than 1 gr. to an ounce, may be given by the stomach without danger.
- (2) Potassium permanganate, subcutaneously, is poisonous.
- (3) Potassium permanganate, grain for grain, completely decomposes morphine, the decomposition occurring in acid media more rapidly than in a neutral medium.
- (4) Food-stuffs and acetic acid do not interfere with the decomposition.
- (5) Potassium permanganate is an efficient antidote if taken while the morphine is in the stomach.

The question still remains as to whether potassium permanganate is of therapeutic use after the morphine is absorbed into the system. It has been proved conclusively that if morphine is introduced subcutaneously into the system it is excreted into the stomach. Now, the morphine passes from the blood into the stomach by osmosis and by excretion, and, by the principle of osmosis, more morphine will be excreted if it is decomposed as soon as it passes into the stomach. Reasoning on this principle, we would expect that repeated small doses of potassium permanganate by the stomach would be of use in cases where the morphine has been absorbed into the system. This is rendered more probable by the fact that morphine, as a rule, is a slow-acting poison.—*The Canadian Practitioner.*

THE SANITARY CONGRESS AND THE FOOD AND DRUGS ACT.—At the Sanitary Congress held in Liverpool recently, Mr. B. Scott Elder, the Chief Inspector for Durham County, read a paper on the administration of the Food and Drugs Acts. It was received on all sides with the highest expressions of approval. From a lengthy discussion which ensued it appeared that the practice of the institute is to print only short abstracts of the papers read; but, owing to a general desire, a resolution was proposed requesting the council to print Mr. Scott Elder's paper *in extenso*, to be circulated among the members, and the meeting, numbering over two hundred inspectors, passed the resolution with only one dissenter. The president, Prof. F. Vacher, and other members of the council who were present, promised to use their endeavours to persuade the council to make the exception asked for.

INSPECTOR F. KNOTT, inspector of weights and measures for West Sussex, has of late received numerous complaints from grocers and others about short weight given by farmers from whom they purchase their butter; hence a case at the Steyning (Sussex) Petty Sessions on Monday. George Grover, a farmer and butter maker, was fined 2s 6d. and 2s. 6d. costs for using unstamped scales.



## ADULTERATION AND FALSE WEIGHTS IN MIDDLESEX.

AT Brentford Petty Sessions on September 29th, E. J. Reeves, of High-street, Southall, grocer and general provisions dealer, was summoned for having sold butter which, on analysis, was found to contain too great a quantity of water.—Mr. T. A. Woodbridge appeared to defend, and Mr. Walter Tyler watched the case. Mr. Watts inspector under the Food and Drugs Act, said that he went into defendant's shop and asked for half a pound of butter, for which he paid 8d. He received the sample, and divided it into three parts, one of which was sent to the public analyst, who certified that it contained 22 per cent. of water.—By Mr. Woodbridge: Defendant did not tell him he bought it as good butter, nor did he show the box he took it from. He did not say that it was Italian butter, nor did he say that the person who supplied him guaranteed it to be pure.—Mr. Woodbridge said that he was not going to dispute the certificate of the analyst, because unfortunately his client had had a sample tested by another analyst, who found the same quantity of water in it. He might say that he believed the analyst had properly performed his duty in the case. In a work on the law of adulteration by "Herbert," there was a statement that in the five years, 1878 to 1882, as many as 5,900 samples of butter were examined, and only 859 or less than 14 per cent. were reported against, whilst in the great majority the fault found was the introduction of foreign fat. An extra percentage of water figured in but a few cases, thereby indicating that such a thing was unusual. The amount of water found by Dr. Bell in butter averaged then 8 to 22 per cent., showing a great variation, but the analyst in this case set up the standard as 16 per cent., which did not appear. This butter was Italian butter brought over to England in boxes warranted pure; the defendant bought it from the man who purchased direct from the Italian merchant, and sold it as he received it. His last idea was to sell butter in any way impure, and it might be pointed out that the impurity, if such a word could be used, consisted of an excess—a questionable excess in the light of Dr. Bell's table of averages—of water, not the addition of any deleterious matter, nor the removal of any material fat. This class of butter required a greater amount of salt being worked into it to preserve it for the English market, and this was what caused more water to be in it than in that made on English farms. Every class of butter had to have some salt worked into it to keep it, and it was obvious that butter which had to come from Italian markets must have a greater quantity of preservative put into it. It was a question if there was any adulteration at all within the meaning of the statute; and he submitted that if the presence of water constituted an adulteration, there was not sufficient to justify the Bench taking notice of it. In view of Dr. Bell's statement he trusted the Bench would not look upon the offence as being equal to that in which a tradesman mixed some pernicious stuff with the real article. The defendant was a highly respectable tradesman, who sold the butter as he received it, and had it contained only 16 per cent. of water the analyst would have taken no notice of it.—Mr. Bevan, the county analyst, who was in court, in reply to the Bench, said that the specific gravity of butter would depend on the proportions of fat and water.—Mr. Montgomery (a magistrate): Do you say that water is nine times heavier than fat?—Mr. Bevan: No. Nine-tenths.—In reply to Mr. Woodbridge he said that there would be more salt in Italian butter, or that which travels a long distance, than in local butter.—Mr. Barber: What is the standard?—Mr. Bevan: It varies. The average amount of water in butter is about 10 per cent.—Mr. Barber: Is there an actual standard.—Mr. Bevan: No, there is not.—The Bench held that there was no attempt on the part of the defendant to commit fraud and refused to convict, but directed defendant to pay the costs.

### INSPECTOR TYLER PAYS A FEW VISITS.

At Brentford Petty Sessions on September 29th, Samuel Knight, of 104, High-street Brentford, milk seller, was summoned by Inspector Tyler for having sold new milk which, on analysis, was found to contain 10 per cent. of added water.—Mr. T. Woodbridge appeared to defend.—Inspector Tyler said that the defendant was in a small way of business. He had known him many years, but he had only just started in the town of Brentford. The certificate of the analyst showed an addition of 10 per cent. of water.—Mr. Woodbridge said that in view of Mr. Tyler's remarks he had no evidence to offer.—Fined 20s. and costs.—William Belgrove, of 43, Church-street, Twickenham, was summoned for having sold milk which, on analysis, was found to be deficient of fat to the extent of 8 per cent.—Mr. G. W. Lay defended and admitted the purchase.—Mr. Tyler produced the analyst's certificate, which showed that 8 per cent. of fat had been abstracted.—Cross-examined: If the milk were not stirred, the cream rose, and that at the bottom of the churn, where the tap was, would be poorer.—Mr. Lay said that his client had his milk from a wholesale man, and he sold it as he received it. That was no excuse, but it went in mitigation of penalty. When Mr. Tyler called, there was not enough milk in one can to serve him, so the sample was obtained from another can, but before it was sold the milk was not stirred up, and all the fat had got to the top. Had it been stirred up no doubt the proper quantity of fat would have been found.—Mr. Shepherd, of Kingston, said that he had the milk from a farmer and supplied the defendant. He had a warranty from the farmer, but did not give one to the defendant. He concluded that his man, on serving the defendant, drew it from the bottom of the churn, and probably the cream had risen to the top.—Fined 20s. including costs.—Joseph Winchester, of 36, Chestnut-road, Twickenham Green, was similarly summoned.—The formalities were admitted. Inspector Tyler produced the analyst's certificate, which showed that 14 per cent. of fat had been abstracted.—The defendant said that he received his milk from a third party, just as in the previous case, and he supposed the poorness arose in the same way.—Fined 25s., including costs.—Alfred Steele, of High-street, Brentford, milk seller, was also similarly summoned.—Mr. Ricketts, jun., appeared for the defendant, and at the outset said that his client desired to have the third sample sent to Somerset House for analysis, being dissatisfied with the certificate of the county analyst.—The request was granted and the summons was adjourned for a fortnight.—Frederick Nash, of High-street, Brentford, marine store dealer, was summoned for having in his possession an unjust weighing machine.—Inspector Tyler deposed to seizing the machine, which defendant had used for buying in old iron, etc., and finding that it was 2½oz. against the seller of the goods. He had previously cautioned the defendant against using the machine. Defendant told him that he was expecting a new machine, and the very next day a new machine was brought to him to be stamped and tested.—Fined 20s., including costs.—Mr. Tyler asked for an order regarding the machine.—The Chairman: It must be destroyed.—William Ashby, of 17, Spring-grove, Kew Bridge, coal dealer, was summoned for having an unjust weighing machine in his possession.—Inspector Tyler said that he found two boys selling coals from a cart, and asked them to weigh the coal. They proceeded to do so, but stopped and said that the scales were broken. Witness examined the scales and found them incorrect. He told the boys that they should not have brought such a thing out, and they said they were bound to carry it by the Act. (Laughter). There was no concealment about it, and he had often met the defendant, tested the scales, and found them all correct, also the weight of coal in the sacks to be correct. Fined 17s. costs.—Defendant was permitted to have the scales back on condition that he had them repaired.—Thomas Burgess, of 34, Epsom-road, Kensal New Town, greengrocer, was summoned for having in his possession five unstamped weights. Inspector Tyler said that some of the weights the defendant had with him would not be stamped, others could.—Fined 10s. including costs.—Thomas

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Crisp, carman to Edward Martin, coal dealer, of 10, Williams-road, Ealing, was summoned for having carried out coal for sale in a cart without having metal labels on the sacks, contrary to By-law No. 1 of the Middlesex County Council.—Inspector Tyler said that there were no labels on sacks which had been delivered, nor on some of the others in the cart; others were labelled, and one sack half full was labelled "1 cwt." Witness asked what it meant, and the defendant said that it was  $\frac{1}{2}$  cwt., and witness told him that it was to stop the practice of false weight that the by-laws were framed.—The defendant said that the coal dealers could not get  $\frac{1}{2}$  cwt. bags made, so the dealers had to have the sacks themselves.—Inspector Tyler said that that was absolutely false, as there were some hundreds in use.—Fined 20s. and costs.

### YEAST ADULTERATION PROSECUTION.

#### ASTOUNDING ASSERTIONS BY A MANUFACTURER.

THE question What is yeast? arose at North Holland Petty Sessions on September 26th, when Edwin Samuel Houlder, of Swineshead was charged with having sold adulterated yeast to Police-constable Ainsworth on September 4th.—Mr. R. F. M. White, of Grantham, appeared for the defendant; and before the hearing of the case made a legal objection that yeast was not food under the meaning of the Act, quoting cases where baking powder, which he contended was practically the same as yeast, had been ruled as not being a food or a drug.—The Bench, after retiring to consider the objection, decided to hear the case.—Mr. White asked the Bench to state a case, and Colonel Moore replied that they would consider that question at the conclusion of the case.—Police-constable Ainsworth deposed to purchasing a  $\frac{1}{2}$  lb. of yeast from the defendant's wife and delivering the same to Superintendent Crawford.—Superintendent Crawford said he divided the sample, and gave one-half to the public analyst, whose report he handed in. The report stated that the yeast was adulterated with not less than 14 per cent. of added potato starch.—Mr. White, for the defence, first took objection to the analyst's report on the ground that it did not state the exact amount of adulteration, and then called as a witness Mr. Henry Thompson, yeast manufacturer, Grantham, who stated that it was absolutely necessary to put 10 per cent. of starch in the yeast to preserve it, and in the working of the yeast the workman had to use starch, in the same manner as a person used flour in the working of dough, which added about another 5 per cent., making 15 per cent. of starch in the yeast.—Cross-examined, witness maintained that the starch would have no injurious effect to the person consuming the yeast, but on the contrary would tend to strengthen the brain. The cost to the manufacturer of the yeast and starch was almost the same, namely, 6d. a lb.—The case was dismissed, the Chairman of the Bench remarking that they did so, not on the objection taken, but under clause 6 of the Act.

After this curious decision the action of the Bench in encouraging the sale of excess water at whiskey price does not surprise us.

Daniel Burton Waldegrave, innkeeper, Swineshead, was charged before the same magistrates, under the Food and Drugs Act of 1875, with having sold adulterated whiskey and gin on September 4th. Mr. Gane appeared for the defendant, and admitted the offence.—Supt. Crawford handed in the analyst's report, which stated that the whiskey was 23.24 degrees under proof, 25 degrees under proof being the minimum allowed.—Mr. Gane pleaded for leniency on the ground that the defendant had held a licence for 19 years without complaint, and that the whiskey had been broken down with hard water two months previous to the purchase, and had evaporated until it was under proof.—A nominal fine of 2s. 6d. and costs was imposed.

### BERMONDSEY VESTRY AND DISEASED MEAT.

#### PETITIONING THE LOCAL GOVERNMENT BOARD.

THE General Purposes Committee reported having considered the letter from the Holborn Board of Works with reference to the recent diseased meat case. They were of opinion that the whole question of the importation of meat into London demanded the most serious consideration, and recommended the vestry to petition the Local Government Board to direct that an inquiry should be held on the subject. The recommendation was agreed to, and it was referred back to the committee, in conjunction with the staff, to prepare the petition for presentation.

### DANISH BUTTER WITH 92 PER CENT. OF MARGARINE.

#### HE SHOULD PROSECUTE THE DANISH BUTTER CO.

FREDERICK JOHN EYRE, grocer, of Gloucester, was summoned at the County Petty Sessions on Saturday, for selling butter adulterated with 92 per cent. of margarine. Evidence was given that on September 8th a police-constable went to defendant's shop and asked for a pound of fresh butter. A sample of the butter was handed to Mr. Embrey, the public analyst, who certified that the preparation contained 92 per cent. of margarine and only 8 per cent. of butter.—The defence was that the "butter" had been purchased by defendant as pure fresh butter from the Danish Butter Company, and on receiving the summons defendant's wife went to the company and saw an assistant, who gave her a written guarantee to the effect that "all butter sold by them was absolutely pure." The Chairman said he felt sorry for defendant and his wife, but the case was proved, and defendant would be fined £5, including costs.

### SANITARY OFFICIALS AND DISEASED MEAT.

ONE of the latest moves of the vendors of unsound or poisonous food who wish to practise the sale of diseased meat without interference is to make a dead set at the sanitary inspector and medical officer, thrust into the witness-box witness after witness who can swear to twenty, thirty, or more years' experience as practical butchers and take oath as "experts" that if ever a piece of meat combined in itself all the virtues of wholesomeness, tenderness, and prime quality, it was the piece alleged by medical officer and sanitary inspector to be unfit for the food of man. Then should a conviction take place the Local Butchers' Association is called upon to protest against it as a malicious and infamous prosecution. The attempts to muzzle the meat inspector and medical officer at Birkenhead offer perhaps the strongest example of what the slink or diseased meat vendors are capable. Local journals chronicle their resolutions and attacks upon sanitary officials, and in many cases the system of terrorism succeeds, the organised body of rotten-meat-condimented-and-thrust-into—"bags-of-mystery," margarine as butter, or milk-and-water gentry combining to "nobble" the Local Board or vestry, and make the official's situation intolerable unless he winks at their knavery. With regard to the butchers' trade this policy is rapidly extending, and we have no hesitation in saying it is one that in the worst sense is like to injure the trade. It is to the interest of butchers' associations that any one found vending diseased meat should be punished far more heavily than is the case at present, in order that the practice of poisoning human beings for profit should be extirpated. For our part we have always held that the vending of diseased meat is not properly punished by a fine, and when that fine, as is often the case, is only a few shillings, the law is made an ass, and rascality is encouraged. Imprisonment is what is needed to stop the practice. Let us take as an instance out of a batch of cases within the last few days one at South Shields on October 5th, before the Mayor and Dr. Legat, when John Fairless, butcher, of 2, Monk-street, Monkwearmouth, was charged with exposing unsound meat for sale on a stall in the Market Place on September 24th. The town clerk (Mr. Moore Hayton) prosecuted, and Mr. J. Bentham, of Sunderland, was for the defence.—The town clerk said the case was one of a serious nature. The defendant was a butcher, and was the owner of a large number of shops in Sunderland. On Monday week he exposed for sale a large quantity of beef, mutton, and sausage which had been brought over from the Sunderland shops, and was the refuse of those places. A large portion of the meat was green and stinking, and some of it was covered with maggots. The meat inspector seized what was unsound, and had it destroyed. Altogether there were 65 pieces of beef and mutton and two stones of sausage condemned. The defendant was liable to a penalty of £20 for each piece of bad meat, and also to imprisonment.—James Pollock, meat inspector, said on Monday, September 24th, he examined the stall of the defendant in the Market Place, which was in charge of five men. He seized 65 pieces of beef and mutton which were green, a portion of it being also maggoty and putrid. It was then noonday. He had it taken before a magistrate, who condemned it, and it was immediately destroyed. The defendant came to him the same afternoon and said the meat was collected from 17 different shops in Sunderland. He gave his men orders to wrap it up on the Saturday night and bring it for Monday's market at Shields. It was frozen meat, and about 2 cwt. of it was condemned.—Cross-examined: Most of the pieces were neck ends, and were being cut up when he went to the stall. Some pieces were fresh when cut. He left some behind and it was soon all sold.—Samuel Grayson, assistant inspector, corroborated. While he was at one end of the stall he saw one of the men picking up pieces and putting them into a bag. He afterwards examined the bag and found a large quantity of bad meat. All that they took away was unfit for food.—Wm. Peacock, engineer at Mr. Wardle's timber yard, deposed to seeing the meat destroyed about one o'clock that day.—Town Clerk: What was its condition?—I don't know, but I'll not easily forget the smell. We had it all day.—For the defence it was said that the meat was somewhat clammy through the frost giving in it, but after it was wiped it was all right. The appearances of the meat were no indication that it was unfit for food.—Thomas Reay and two other witnesses, who were in attendance at the stall,

### CONTRACTS FOR DISINFECTANTS.

#### IMPORTANT NOTICE!

To Local Boards of Health, Vestries, and Sanitary Authorities generally.

THE SANITAS COMPANY, LTD., beg to give notice that they have reason to believe there are several unprincipled firms who are offering for sale more or less worthless and fraudulent imitations of the well-known "Sanitas" Disinfectants.

The various "Sanitas" Disinfectants are all manufactured by scientific processes which are protected by Letters Patent, and in order to guard against the nefarious practices above referred to, it is respectfully suggested that all contracts for "Sanitas" Disinfectants and Appliances should be entrusted to the Sanitas Company, Ltd., who are the sole manufacturers, or that a stipulation should be made making it obligatory upon contractors to supply the goods in our original sealed packages.

### THE SANITAS COMPANY, LIMITED

(C. T. KINGZETT, F.I.C., F.C.S., Managing Director)

LETCHFORD'S BUILDINGS, THREE COLT LANE, BETHNAL GREEN, LONDON, E.



denied that there were any maggots on the meat. All of it was sound and fit for human food. Reay, in reply to the town clerk, said they were selling the meat at 2d. and 2½d. per pound, and some of the best of it they sold for 4d.—The Town Clerk: And some of it went at 1d. a pound.—Witness: We were selling it as cheap as possible.—The magistrates considered the case proven and fined the defendant £20 and costs.

No person possessed of reasoning powers in a serviceable state is fool enough to suppose that a £20 fine is any real punishment for the owner of a large number of shops. It is a mere fleabite, which the person summoned can afford to pay smilingly. A month's hard labour is what magistrates should at least give vendors of "green, stinking, and maggoty meat," and in so flagrant a case as this that would have been even too lenient a sentence. We shall not, however, be surprised if some local association of traders from some "pot-house" send to the local press a strong resolution accusing the inspectors of being actuated by malice in the prosecution, condoling with the defendant and calling on their fellow traders to combine to punish the officials who seized the meat. Such things have been done and even as we write we have before us a case of white-washing a "fly-blown" brother that points a moral of great importance to the public. At Clay Cross, on September 19th, John Hay, butcher, Meadow-road, Derby, was summoned by Mr. T. G. Griffin, inspector of nuisances to the Clay Cross Local Board, for having exposed for sale meat which was unfit for human consumption, in the Market Hall, Clay Cross, on July 9th. The inspector stated that he seized one forequarter of beef in the Market Hall. He thought it was not fit for human food, and at once sent a telegram for Dr. Mackintosh, the medical officer of health. Dr. Mackintosh condemned the meat as being unfit for food, and it was destroyed.—The defendant, who was represented at the market by a salesman, contended that the meat was wholesome. It was simply fly-blown.—The evidence of the inspector and Dr. Mackintosh was corroborated by Dr. Chawner.—The defendant called four Derby butchers as witnesses, and they stated that the meat was merely fly-blown through hot weather.—The Chairman said they had no difficulty in coming to the conclusion that the meat was bad, and a previous conviction at Derby being proved, they now fined the defendant £15, and £2 16s. costs. The money was paid.

Now here is a case in which a previous conviction was proved, and yet a penalty of only £15 was inflicted. The meat was admitted by friendly witnesses to be "fly-blown," but its fly-blown condition was, as Mr. Toots would say, regarded as of no consequence. The transmission of disease by garbage-feeders such as flies has been proved times over, and even assuming that the meat was only "fly-blown" the vendor was justly punished for offering it for sale. Such, however, is not the opinion of his fellow butchers, for they met at Derby on September 27th. After hearing the statements of several gentlemen who had inspected the meat and given the entire case a good deal of consideration, the committee expressed much sympathy with Mr. Hay, who, in their judgment, was not to blame. Furthermore, they started a subscription, with the result that the whole of Mr. Hay's fine and expenses have been returned to him.

This resolution was sent to the press and an effort made to secure public sympathy for the butcher. We hope the people of Clay-Cross will be too sensible to heed such attempts as this to make them believe black to be white. Such cases, however, receive far too little attention from the general press, whose columns are too often exploited by interested cliques because the editors know almost nothing of the real difficulties of public health work, of the liability of zealous officials to be dismissed by cliques of slum property-owners, diseased meat vendors, or food adulteration knaves. It is a pity that such little interest is taken by the general press in the important question of a pure food supply, as it leads to a great amount of swindling being practised and to the spreading of much disease.

Perhaps the press would take some trouble in exposing the meaning of such resolutions by butchers' cliques if its writers realised better the extent of the traffic in diseased meat. This week, for instance, the following case occurred amongst others. At the Bolton County Police-court, James Esdale, butcher, Farnworth, was charged with having the diseased carcass of a cow in his possession intended for the food of man; and William Hurst, also a butcher, of Farnworth, was charged with having the carcass on his premises, on the 21st ult. Mr. J. H. Hall prosecuted on behalf of the Farnworth Local Board, and Mr. M. Fielding represented both of the defendants. Mr. Hall, in opening, stated that on the 21st ult., an officer of the local board visited Hurst's slaughter-house and there found a diseased cow; it was taken to the medical officer, and afterwards the magistrate ordered it to be destroyed.—Alfred Kerslaw, medical officer for Farnworth, stated that he examined the carcass on the 22nd. There was evidence of tuberculosis, and the carcass was unfit for human food. It was dressed as if fit for food. The result of anybody eating it would be to produce nausea, vomiting, and diarrhoea, and it might also bring on tuberculosis, particularly in the young.—Mr. Fielding admitted that the animal was unfit for food. Mrs. Esdale, he said, bought the cow for £6 10s., from a Halliwell farmer, and her husband went for it in broad daylight, so it could not be said that they had tried to do the thing in an underhand manner. The cow appeared to be perfectly healthy, and as there was no public slaughter-house in Farnworth, Hurst allowed Esdale to kill it on his premises out of kindness, as the man was in poor circumstances. Hurst knew nothing about the

condition of the cow, and as there was no guilty knowledge on the part of Hurst, he was not liable. Esdale said Hurst had not seen the cow, and knew nothing about its condition.—The magistrates retired, and, on returning, imposed a fine of £10 and costs, or in default two months' imprisonment with hard labour, and Hurst was mulcted in a penalty of £5 and costs, or in default one month's imprisonment with hard labour.

At Wigan, a few days before the above case, a youth named Samuel Deakin was summoned for being in possession of meat which was unfit for the food of man.—The meat was exposed in the shop in a most putrid condition, and when skewers were put into it and drawn out they produced a most disagreeable smell.—Defendant pleaded guilty. He said a Mr. Chadwick gave him orders to cut it up and put fat round it. He was sorry it had happened, and Mr. Chadwick had since discharged him.—The case against Thomas Chadwick was then proceeded with.—Mr. Ellis stated that in this case the facts were exactly the same as in the last up to the time when the meat was at the Local Board office. After its seizure the defendants Chadwick and Deakin came to the office and the former said the meat was good, and threatened to take action against someone if it was not returned to him. He would call Deakin with reference to putting fat round the beef, and if the Bench were of opinion that the defendant adopted that course as a device for the purpose of securing sale he hoped they would think it an exceedingly bad case, and inflict a heavy penalty. If the defendant sold meat of that description he was not only robbing people of their money but of their health.—Samuel Deakin, the defendant in the last case, stated that Chadwick brought the meat to him and told him to "make it look something like" for sale.—Deakin was fined 5s. and costs, but the Bench thought Chadwick's case a serious one, and find him £5 and costs.

The law permits imprisonment for such offences, but magistrates seem to have a horror of sending to gaol persons who place in grave danger their fellow creatures' lives. There is an occasional oasis in this desert of magisterial encouragement of rascality, as at St. Helens this week, where William Coles, of Tontine-street, a fish dealer, was charged with exposing for sale unwholesome fish. Mr. Jeeves prosecuted, and Coles did not not appear.—Mr. Jeeves said that on October 1st the defendant was hawking fish in College-street. He had a quantity of haddies and mussels, the latter being in a bad and putrid state. Many of the fish were dead, the shells being open. When Constable Smirthwaite, the meat inspector, spoke to him about the condition of the mussels, he admitted that some of them were a bit off, but he could look over it if he liked. The inspector, however, said he would be obliged to report it. Dr. Robertson, the medical officer of health, said that about a fourth of the mussels were in a putrid and rotten condition, and those that were good, by contact with the bad ones, stank badly. To eat the good ones would have been injurious on account of their contact with the bad ones. Putrid mussels were most dangerous in spreading disease. As Coles had been convicted in August for selling putrid fish he was now sent to prison for six weeks without the option of a fine. The press could do much in strengthening the hands of officials who strive to stop such practices if they would pilory magistrates who inflict such penalties, and the cliques who seek to conserve them.

#### DEATH THROUGH EATING ROTTEN FRUIT.

AT the Chelsea Town Hall on October 8th, Mr. C. Luxmoore Drew resumed and concluded his inquiry into the circumstances connected with the death of George William Haslehurst, aged thirteen years, the son of a lodging-house manager, of 19, Little College-street, Chelsea, whose death, it was alleged, was due to an irritant poison. A fellow schoolboy said that on the day previous to his death the diseased was given a "rotten" pear, which he ate. The witness also had one, and they afterwards had some ice-cream from a barrow in the street. The witness was also sick. Dr. Frederick Wormack, analyst at St. Bartholomew's Hospital and for the county of Middlesex, said that by the direction of the coroner he had made an analysis of the contents of the stomach and intestines. He found no signs of actual poison. In the witness's opinion, the deceased had eaten some irritant food, which caused great bleeding in the stomach. Probably it would be the pears, because the ice-cream would tend to contract and stop the bleeding rather than increase it. Death was due to syncope and fainting, following hæmatemesis or hæmorrhage of the stomach, arising from eating the rotten fruit. The coroner said the case turned out not to be so serious as was at first supposed, the analysis showing no poison in the stomach. The jury returned a verdict in accordance with the medical evidence.

#### "TRUTH" ON RIDICULOUS FINES.

"TRUTH," October 4th, says:—"There is another point which gives some additional force to what I said last week about the absurdly inadequate punishment for watering milk. This is the disproportionate severity witnessed when the offence is that of watering beer. Side by side with the case in which Mr. Lane fined a milkman 5s., on a second offence, I have now before me particulars of another case in which Mr. Lane fined a publican £25 and costs for diluting beer to the extent of two gallons in thirty-six. Mr. Bung has so many able and willing champions that it is unnecessary for me to take up the cudgels on his behalf; but



there is a great deal to be said in favour of watering beer, and my own impression is that 5 per cent. of water added to the average London public-house liquid would make it very much better for the drinker. To water milk, on the other hand, can do nothing but harm, and may possibly endanger life and health. On what principle, therefore, a London magistrate imposes a fine of 5s. on the adulterating milkman and £25 on the adulterating publican I am at a loss to imagine.

#### "MILK versus BEER.

"The man who would adulterate,  
As recent facts make clear,  
Should not attempt to tamper with  
The purity of beer;  
If he his luckless customers  
Is quite resolved to bilk,  
The safest plan that he can try  
Is watering their milk.

"For if he does the one—then, woe,  
The law on him will drop,  
Prepared with swingeing penalties  
His wickedness to stop;  
Whereas if he dilutes his milk,  
For this nefarious action  
The law in some mere trivial fine  
Finds ample satisfaction.

"Now, surely, on the face of this  
(I say it with due awe),  
The Law's behaviour seems to show  
A weakness in the law;  
For watered beer, though toppers may  
From such a beverage shrink,  
Is most indubitably made  
A much less harmful drink.

"Pump in the barrel as you will,  
You do but minimise  
The danger that admittedly  
In every tankard lies;  
Dilute your potent treble X  
As freely as you may,  
You but promote the Temperance Cause  
In most effective way.

"Whereas if milk be tampered with,  
No words can overstate  
The widespread harm that it may do,  
The woes it may create,  
Where'er it makes its treacherous way,  
If water's in it rife,  
'Twill undermine the nation's health—  
Nay, sap its very life!

"Diluted beer does not induce  
The temperate man to fuddle,  
Diluted beer has not the strength  
A toper's brain to muddle;  
Diluted milk, though, tends our race  
To weaken and exhaust;  
Diluted milk too surely means  
An infant holocaust.

"Yet beer, 'twould seem, is sacrosanct,  
Protected by the law  
In such a way that few essay  
To water what they draw;  
Whilst milk, the life-blood of the land,  
Such weak defence obtains,  
That swindling dairymen, with ease,  
Amass ill-gotten gains.

"The Law, as Mr. Bumble said,  
Is frequently "a hass,"  
But surely not quite "hass" enough  
To let this scandal pass.  
If brewers must protected be  
By its most stern decrees,  
"It surely won't let dairymen  
Still cheat us as they please.

"It surely will no longer wink  
At gross adulteration;  
Nor treat with lenience those whose deeds  
Are treason 'gainst a nation;  
Nor by the levying of fines  
Of ludicrous amount,  
Proclaim the purity of milk  
Is but of small account.

"Nay, we will rather hope to see  
That, in its zeal to hamper  
Those who with Nature's choicest gift  
So wickedly would tamper,  
'Twill every knavish dairyman  
'Midst England's righteous laughter,  
First send to prison for a spell,  
And then fine smartly after!"

#### MARGARINE AS BUTTER AT BRIXTON.

MESSRS. JONES BROS., of Milkwood-road, Brixton, were summoned by Mr. H. Treherne Wiggs, on behalf of the Lambeth Vestry, for selling butter not of the nature, substance, and quality of the article demanded by the purchaser, inasmuch as it contained 90 per cent. of margarine. The "butter" was sold at the rate of 1s. per pound. Mr. Hopkins told the defendant he would have to label this mixture "margarine," and ordered him to pay a fine of 40s. and costs.—J. Lutchford, of New Park-road, Brixton, was summoned for selling as butter a mixture containing 70 per cent. of margarine. He was fined 40s. and costs.—Messrs. J. Sheppard and Co., of Brixton-hill, were also fined 40s. and costs for selling as butter a mixture containing 60 per cent. of margarine. One of these firms has several shops and a large business. The sale of 60 per cent. of margarine at butter price means an extra profit to the firm of at least 3½d. per lb. A 40s. penalty for this offence is an absurdity and only encourages such practices, as the sale of a couple of cwt. of the adulterated article would recoup the vendors both fine and costs. Adulteration with 40s. fines is too paying a game to be readily abandoned.

#### ENFORCING THE ACT AT MARGATE.

EDWARD JORDAN, 48, King-street, Margate, dairyman, was summoned last week for supplying milk to the inspector which was adulterated with 18 per cent. of added water.—Frederick Pettman, 14, Godwin-road, dairyman, was summoned for selling milk adulterated with 10 per cent. of water. The prosecutions were conducted by the town clerk (Mr. Geo. Foord-Kelcey); and evidence was given by Mr. Balster, and Mr. S. Harvey (public analyst), who said Jordan's was a bad sample.—The defendant said he did not keep cows, but bought his milk of three people, and believed that it was pure.—Jordan was fined 10s. and 30s. costs; and Pettman (who said he bought and sold it as pure milk, that the percentage was small, and that he did not water it, as it did not rain that morning), was fined 5s. and 30s. costs.—Ernest Ansell, 2, John's-road, milk seller, was summoned for refusing to sell a pint of milk to Herbert Balster, sanitary inspector, for the purposes of analysis.—The defendant pleaded guilty, and the town clerk said he made his refusal on the ground that he had only sufficient milk for his customers. The defendant, who repeated this statement, was fined 5s. and 7s. costs.

#### CORRESPONDENCE.

##### THE LIVERPOOL CONGRESS AND MR. SCOTT ELDER'S PAPER.

To the Editor of FOOD AND SANITATION.

DEAR SIR,—I have been waiting to see whether Mr. Scott Elder's admirable paper, which was received with such approbation and enthusiasm at the Liverpool Congress, would be published in FOOD AND SANITATION, but from the brief outline in last week's issue I judge it will not. Although I am aware that a special resolution was carried, asking the authorities to print the paper in full, I presume these copies will only be for circulation among the members of the Sanitary Institute, and I think if Mr. Scott Elder would consent to it appearing in your columns, he would be gratifying the desire of many of his fellow-inspectors.—Yours obediently,

Glasgow, October 9th, 1894.

"ONE OF MANY."

[If Mr. Scott Elder will favour us with a copy we shall be pleased to publish the address in full.]

#### THE SELECT COMMITTEE ON ADULTERATION.

##### CONTINUATION OF MR. BANNISTER'S EVIDENCE.

XIV.

(Continued from page 320.)

BUT would it not be much more easy to detect the adulterated butter at the port of import than when it gets separated throughout numerous shops in the metropolis?—Yes, that would be so; but there is this point to be considered in connection with that, that all the butter that is imported—unless it is salt butter—and fresh butter is generally imported, has to be at a certain market at a certain time, and therefore there is a great responsibility in detaining samples of butter for the purpose of analysis unless it does turn out that the butter is adulterated. Take a case in point. Some years ago there was some tobacco imported into this country, and a charge was made that it was adulterated. It was found afterwards that it was not, and the next thing was that the importer took action against the Government, and recovered a heavy penalty; and the butter importers would do exactly the same thing.—Yes; of course, the Custom House officers who examined those samples would have to be very careful; but it seems to me that if the samples of butter could be taken and examined at the port where it is landed it could save a great deal of trouble afterwards in the examining of the butter, because it would be examined in bulk?—Yes, but it would have to be distributed before the result of the analysis was known, I dare say.—You could not provide for that?—No.—How long would it take to



analyse a sample?—You must have two or three days for the purpose of analysing it.—At least?—Yes. There is a difference between the importation of spirits and tea, and the importation of butter in this respect; the butter can be imported into any port, but tea and spirits only into certain ports; and it follows then, as a matter of course, that we should have larger sampling, and then there would be a difficulty in sending up samples to the central authority for examination, which would all take time.—Then, butter being a perishable article, unless it could be analysed in less than two or three days, it would be impossible to do it at the port?—But even in two or three days some of the butter would be dreadfully damaged.—That is what I mean; and, therefore, unless you could discover some easy and expeditious way of testing it, it would not do to test it at the port?—That is my opinion.—With regard to margarine, does not Section 8 of the Margarine Act authorise the Custom House officers to take samples of margarine at the ports?—Yes.—Is that done?—I do not know that it is, except under the Trade Marks Act.—You would know, would you not?—I saw the last Custom House report, and I saw that a very small number of samples had been taken; about 30. It is evident that they could not be systematically taken, otherwise there would be a greater number than that.—They take samples under the Sale of Food and Drugs Act, I think, not the Margarine Act?—I think under the Margarine Act.—Ought not this Margarine Act, in your opinion, to be put more in force?—That is for the Government to settle, and not for me.—I mean in your opinion as an official would it not be more efficacious in testing samples?—There is no doubt that it would be more efficacious.—As this power is given in the Margarine Act, many people think that the same power should be taken for testing samples of butter; but from what you say there is a difference, because margarine, I suppose, is not a perishable article?—Now margarine includes all mixtures of the ordinary margarine and butter; they must be called margarine; and some of the margarine imported contains a considerable quantity of butter.—Then when the Custom House officers test it, and they find that it is bad, do they stop the package of margarine; do they test it there and then before it is distributed?—I think they do not stop a package of margarine on account of its badness, but only if there is any contravention of the Trade Marks Act, because all mixtures of butter and margarine must be labelled "Margarine."—Following up what you said just now, if the Custom House officers discover that a sample of margarine is adulterated, yet before they have had time to seize the package it has been distributed amongst the shops, is not that so?—I think the point about the margarine really is as to whether it is correctly described or not; as to whether the margarine is imported as butter, and not imported as margarine.—But then does it take any time to find out whether it is margarine or butter by analysis?—Certainly.—How long?—Margarine is not of a definite composition, because you have margarine mixed with different proportions of butter; and the question really to settle is whether the so-called butter does contain any foreign fat.—But, as you said just now, if a sample were tested, and it was found that that margarine was untruly described, before it could be stopped it would be distributed, amongst the shops?—Yes, it would.—Therefore the same difficulty in testing margarine at the port would apply to butter?—It would apply to butter, but there is no doubt that the difficulty of testing either butter or margarine at the port is very great.—I think you said something about the analysing of butter; is there any analysis made at Somerset House at all of butter?—Yes, we examine samples of butter for the India Office, and other Departments; we take samples ourselves for examination; and we have also samples of butter for examination which are referred to us under the Adulteration Act.—You promised to give us the number of the samples that you take?—I have brought the number of the samples that I spoke of last week, as getting some from the market that contained foreign fat. There were some samples of Hamburg factory butter which were guaranteed to be genuine; there were five of them, and we found that they contained from 20 to 40 per cent. of foreign fat. We also examined them for moisture, and we found that the moisture varied in them from 19.56 to 21.50.—What should you say was the standard of water that is allowed in butter?—There is no standard of water that is allowed in butter.—But what is the general amount that you find in butter; the maximum which is allowed in butter, without counting it as adulteration?—In salt butter 16 per cent., or a little over.—And in fresh butter?—It would be from 12 to 14 per cent.—And in the butter that you have examined, is most of the adulteration in foreign butter amongst the samples that have been taken at Somerset House?—We cannot trace the origin of all the butter that we examine.—You have no list made up of that?—No, we have no list made up. Those are foreign butters that I described just now.—They were stated to be foreign?—We know from their history that they were foreign butters, and had been manipulated at Hamburg. Have you tested any that were marked "English butter"?—Yes, we have tested butter marked as "English butter."—What proportion of adulteration have you found in them?—I do not know that we have found any.—Then generally speaking most of the adulteration is found in foreign butter?—Yes, so far as we are concerned.—Mr. Bolitho: Do you know whether in those countries from whence butter is exported, and where a bounty is given, when the butter is exported, they send also any record of the composition of the butter; do they send any document show-

ing that it is genuine?—I do not know that they do; I cannot answer that question.—Have you ever come across any of the Australian butter which arrives in large quantities?—Yes, I have got the analysis of a sample of Australian butter here. There are two here for comparison; there is one a sample of British dairy butter, and another a sample of New Zealand butter. The water in the British butter was 13.96 per cent., and in the New Zealand butter it was 8.85; the acids soluble in hot water were 4.97 in the British butter, and in the New Zealand butter 4.50 per cent.; insoluble acids in the British butter were 88.74; and in the New Zealand butter 89.36.—Then you have not had, I think you said, many samples sent of butter taken directly from a farm?—We have had a large number of samples of butter taken directly from a farm, years ago.—But now they come through another source?—We have them for particular experiments, for the purpose of showing the variations in the genuine butter.—Mr. Kearley: With regard to the possibilities of inspecting butter at the port of entry, you think, as I understand, that there would be difficulties in the way in consequence of butter being a perishable article?—I feel sure that there would be great difficulty in the way.—Do not you think that a sample package from a consignment might be detained during the analysis, or rather that observations might be made by taking samples, and that by those means the Customs would be in a position to await further arrivals, and, acting on the data that they had ascertained, they might confiscate the second arrivals?—That is a way out of the difficulty. Of course with the first importation there would be great difficulty in retaining that importation until the analysis was completed; but if the samples were of a regular importation of a particular brand of butter, the information obtained in the first importation would be very useful in regard to the second, third, or subsequent importations.—And in such cases it would tend to prevent the circulation of a fraudulent article?—There is no doubt that it would tend in that direction.—You mentioned I think, that the Customs have informed you that there had been some cases in which they had put Section 8 of the Margarine Act, or Section 2 of the Merchandise Marks Act, into force in connection with butter that was suspected of being adulterated?—I heard that from a Custom House official. Did they tell you under what conditions these Acts were put in force; did they tell you how they came to be put in force?—They did not, so I cannot give you any information upon the subject. Did they tell you that any cargoes were confiscated by reason of the action that they took?—I heard that a cargo was confiscated, but I do not know the circumstances of it. As regards Section 8 under the Margarine Act, which says, "All margarine imported into the United Kingdom of Great Britain and Ireland, and all margarine, whether imported or manufactured within the United Kingdom of Great Britain and Ireland, shall, whenever forwarded by any public conveyance, be duly consigned as margarine; and it shall be lawful for any officer of Her Majesty's Customs or Inland Revenue, or any medical officer of health, inspector of nuisances, or police constable, authorised under Section 13 of the Sale of Food and Drugs Act, 1875, to procure samples for analysis if he shall have reason to believe that the provisions of this Act are infringed on this behalf, to examine and take samples from any package, and ascertain, if necessary, by submitting the same to be analysed, whether an offence against this Act has been committed;" would that not, in your opinion, give the Customs power to inspect butter, or rather butter so-called, which has been consigned as butter, if they had reason to suspect that it was an adulterated article of margarine and butter?—I should say that it would. So that it does not necessarily follow that their powers are only to inspect those goods which are marked "margarine"?—No. I think they have got power under that Act to go further than they do at the present time.—Would it be an offence under the Merchandise Marks Act to consign goods as butter that were not butter, but which might possibly be a mixture of margarine and butter?—I believe it would. That would be an offence under that Act?—Yes.

(To be continued.)

## THE "NOTICE" DODGE AGAIN.

### THE SPIRIT DILUTION QUESTION.

MR. WILLIAM HOGG, proprietor of the Hand and Flower, Union-street, Borough, appeared at Southwark on October 5th, to a summons taken out at the instance of the St. Saviour's Board of Works charging him with having sold to the prejudice of the purchaser a quantity of gin not of the nature, substance, and quality demanded by the purchaser.—Mr. Maitland (Maitlands, Peckham, and Co.), solicitor, defended.—The evidence of Mr. Grist, one of the officers of the Board, was to the effect that when he made the purchase of the gin he saw no notice to the effect that spirits were diluted.—Mr. Maitland said that a card to the effect that the spirits were diluted was conspicuously placed in the bar, and that it must have been in front of the inspector when he went in. It was not necessary to give notice. "Sanderson v. Small" proved this.—Mr. Slade then decided to visit the premises, and, accompanied by Inspector Grist, his Worship inspected the bar, and the position of the notice as described by Mr. Maitland.—Upon his returning to the Bench, his Worship said he had seen the position of the notice, and having regard to the arguments brought forward by Mr. Maitland he should dismiss the summons.



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# Food and Sanitation.

SATURDAY, OCTOBER 20TH, 1894.

## FACE-BOTH-WAYS FOOD REFEREES.

WE felt it necessary some weeks ago to make public the fact that the Somerset House Chemical Department was harrassing the Select Committee of the House of Commons, and to prove beyond any possible denial on their part that they had one set of statements for the House of Commons Select Committee and another for public analysts and traders. If the House of Commons Committee is satisfied to be thus flouted and made a thing of no account, it must be about the most pigeon-livered, gall-lacking committee that has ever had the task before it of inquiring into a great question of far-reaching importance to all sections of the community. The Somerset House representative specifically stated that his department was always ready to communicate information as to standards, methods, etc., to public analysts whenever requested. Acting upon this Mr. Alfred H. Allen, public analyst for Sheffield, requested Mr. Richard Bannister, deputy-principal of the Somerset House Chemical Department, to supply data of standards and methods etc., which would enable public analysts to know precisely what Somerset House would pass as genuine vinegar, tincture of rhubarb, ginger, and milk—all articles which are the subject of almost daily prosecutions, and about which there is so much indefiniteness owing to the absence of any real declaration as to what Somerset House considers genuine, that local authorities have been put to great

and needless expense. Friction has arisen between them and traders, and the enforcement of the Acts has been stultified in so many cases, that local authorities have preferred to let them remain a dead letter. From a published correspondence in the *Analyst* we see that Mr. Bannister declines to furnish any information whatever upon the points asked, although he emphatically assured the Select Committee that he was always ready to supply such information. It is no secret to capable food analysts why the Department refuses to state what its limits, etc., are. To enter into details of its methods would be to publicly admit what is everywhere known amongst public analysts—that it is ignorant and incapable of even making an analysis of vinegar, for example, that would pass muster in the most wretched country pharmacy. So long as the Department can shuffle out of making its standards public it can pose as having some knowledge, but if it declared its methods and limits, it well knows that it would at the same time confess its wretched incapacity. We publish a portion of the correspondence in our present issue, and shall make public to our readers the remainder next week. Mr. Allen's rebuke of Mr. Bannister's impertinent request that he should betray professional confidence is very interesting, as illustrative of the ethics of Somerset House. Happily for the honour of the analytical profession, that code of ethics has penetrated no section of the analytical profession outside the perpetual fog-enveloped Somerset House Chemical Department.

## POINTS FOR INSPECTORS.

At the Gateshead Police-court on October 8th—before Capt. Chapman and Mr. Henry Wallace—Mrs. Jessie Moffatt was charged under Section 6 of the Food and Drugs Act with unlawfully selling a pint of milk with 8 per cent. of added water. The Town Clerk (Mr. Swinburne) prosecuted, and Mr. C. W. Newlands defended.—Mr. Swinburne said that the inspector under the Act (Mr. Jours) went to the defendant's shop at 49, Park-lane, Gateshead, on September 11th, and asked to be supplied with a pint of new milk, for which he paid 1½d. He complied with all the requirements of the Act with reference to the sealing up of the samples into three bottles and submitting one of them to the public analyst. The latter found the sample contained 8 per cent. of added water.—Wm. Jours, after giving his evidence in support of the opening statement, was cross-examined by Mr. Newlands, who elicited that when he went into the shop Mrs. Moffatt was not present, and that he was in the act of filling the first bottle in the presence of a little girl and servant when the defendant came in. He filled the bottles himself direct from the bowl on the counter, and the pint of milk for which he afterwards paid was never placed in any receptacle by itself alone. The mistress took one of the bottles which he filled.—Mr. Newlands submitted that there was no case, the requirements of the statute not having been complied with. Apart from the question as to who actually supplied the milk, it was admitted that the milk which Mr. Jours bought was never for a single instant by itself in any one receptacle as required by the Act. The point was not technical, but of substance. Assuming that coffee was divided in the same way, the likelihood would be that the compound of coffee and chicory submitted to the analyst might not be the same as the other two parts which had been taken separately from the bulk. It was highly probable that the parts would not be properly mixed.—The Clerk: Do you say that milk is a mixture?—Mr. Newlands: Decidedly not. I am illustrating what I consider a fatal objection to these proceedings. If it were necessary to properly mix coffee before dividing it for analysis, it was certainly necessary to do the same with milk, which under the Act was equally an article of food. His first objection, therefore, was that a fair sample of milk was not obtained for analysis owing to the pint not being put into a vessel by itself. His second objection was that there was not a sale of the milk as the statute contemplated. Mr. Jours supplied himself with the milk, and afterwards paid the defendant. This was not really a sale on which a person could be convicted. His next point was that Mr. Jours never suggested in his evidence-in-chief that he made any offer to Mrs. Moffatt to take one of the samples.—The Bench considered that Mr. Newlands had established his first point as to the division of the three quantities, but they thought the sale had been completed. Under the circumstances, they thought the case should not be carried any further, and recommended, in view of the importance of the milk question, that the A.B.C. of the Act should in such matters be carefully attended to.—The case was dismissed.



### NEWTOWN AND THE FOOD AND DRUGS ACT.

THE advisability of appointing an inspector under the above Act had received the consideration of a special committee, and they had come to an unanimous decision, which was to the effect that Police-sergeant Thomas Morgan be appointed inspector under the Act at a salary of £5 per annum, and that application be made to the chief constable for his sanction of the appointment.

### HOW THEY TREAT PATENT MEDICINE SWINDLERS IN GERMANY.

THE manufacturer of a German nostrum termed "Professor Fragelli's Beard Promoter," has recently been told that he must pay a fine of £100 or go to gaol. In the leading German comic paper he advertised that his nostrum was an infallible article for producing a beard. Some youths tried it, did not succeed, and brought suit against the swindler, with the result related. The preparation was shown to consist of a methylated spirit solution containing benzoin, oil of lavender, cinnamon, and sandalwood.

### OLIVE OIL AND A MAGISTERIAL CURIOSITY.

A FOOD and drugs inspector of the Battersea vestry bought three-quarters of a pint of olive oil of Mr. Moulton, grocer, of 82 Northcote-road. The analyst certified that at least 90 per cent of the oil was foreign seed-oil.—Mr. Denman, at the South Western Court on October 10th, dismissed the summons on the ground that it was not shown that the oil was sold as a food or as a drug. It might be used for oiling machinery. Mr. Denman granted the vestry a case, declaring that the Act would be far more useful than it is if it penalised any person who sold what was not what it professed to be.

We can add another declaration to that of Mr. Denman, viz. :—that the Act would not be the farce it is if there were fewer magistrates willing, like Mr. Denman, to allow it to be jockeyed for the purposes of intimidating vestries. It will cost Battersea a heavy sum to fight a case in this matter, and there are not many vestries who would like the trouble. The bulk in face of so idiotic a decision, would be content to let roguery in olive-oil flourish.

### THE ITALIAN MARGARINE LAW.

THE new law in Italy with regard to margarine provides that persons who, for commercial purposes, keep, or sell, or export for, or import into the kingdom of Italy butter prepared wholly or partly of margarine, or any other oily or fatty substances not derived from milk cream, shall print clearly on each piece of the product either the words "Artificial Butter," or else the word "Margarine." The covering or coverings of the butter must be marked. The shops also, where products resembling butter are exhibited for sale, must bear the following notice in clear characters, "Margarine, oleo-margarine, elementary fat, or artificial butter sold here." A penalty is inflicted on all makers and sellers of the commodity who may add any colouring matters for the purpose of resembling butter. If there should be a repetition of an offence, an additional punishment may be inflicted of three months' imprisonment. The fines range from £8 to £80. It may be wished by many that some stringent law may be passed in this country with regard to the detection of margarine and the punishing of those who sell it in this country.

### ENFORCING THE ACTS IN IRELAND: A CURIOUS CERTIFICATE.

AT Tralee Petty Sessions, Timothy Moriarty was fined 20s. for exposing butter for sale containing 20·2 per cent. of water, the standard being 16 per cent.—Timothy Griffin was charged with a similar offence. The analysis in his case showed that the butter contained 23·12 per cent. of water.—A fine of 20s. was imposed.

AT Kanturk Petty Sessions, Sergeant Francis Hutchinson, inspector under the Food and Drugs Act, prosecuted Michael Cagney for unlawfully adulterating his milk with water. The result of the analysis was handed in, whereby it appeared that the milk in question had been adulterated with at least 5 per cent. of water. The Bench imposed a fine of £1, with 14s. 6d. costs and costs of court.

AT Newmarket Petty Sessions, Mr. Andrew Shaughnessy, the proprietor of the Newmarket Creamery, summoned a man named Cornelius Beechinor for having his milk adulterated with water. Mr. H. R. Barry, solicitor, Kanturk, prosecuted, and Mr. W. Keller, solicitor, Kanturk, defended. A document showing the result of the analysis and signed by Mr. O'Mahony, the county analyst, was handed in on behalf of the complainant. Mr. Keller contended that the document should not be read in evidence; it was merely a little scrap of paper to which was affixed the signature of Mr. Mahoney, who did not append the words "county analyst," as he was bound to do. Major Hutchinson said there was a regular form which should be filled up by the public analyst in all such cases. The Bench unanimously rejected the document as informal, and dismissed the case without prejudice.

### MARGARINE ACT PROSECUTIONS.

AT Ripley Petty Sessions, on October 8th, Annie Guest was charged with selling margarine for butter, at Ripley, on August 27th. Captain Sandys proved the case, and defendant, who did not appear, was fined £1 2s. 6d.

### CASTOR OIL.

A STATEMENT comes from Boston that a scientist has just discovered a process whereby castor oil may be extracted from the lean in such way as to eliminate all those properties which have heretofore made it such an offensive dose. It is claimed for this discovery that, unlike all other attempts to render castor oil palatable, by this new process the oil is not robbed of any of its valuable medicinal qualities, while all nauseating and griping properties are removed. In view of the position occupied by castor oil as a remedial agent for generations past, this discovery is one of great importance.

### 90 PER CENT. SPENT GINGER.

AT Handsworth Police-court on October 11th, Ernest Jorns, grocer, Great Barr, was summoned at the instance of Mr. Van Tromp, inspector under the Food and Drugs Act, for selling adulterated ginger. On August 24th Inspector Toy called at defendant's branch shop and purchased 2oz. of ground ginger, for which he paid 1½d. The canister from which it was taken was labelled "warranted genuine." Edward William Taylor Jones, analyst for the County of Stafford, stated that the mixture was composed of at least 90 per cent. of exhausted ginger, from which the aromatic ingredients had been extracted for the purposes of colouring and flavouring ginger-beer by immersion in alcohol. It was of no use or value, and could not possibly answer the purpose of ginger. Defendant was fined £1 and £3 ls. costs.

### WATERING THE WHISKEY.

WILLIAM TOPLIS, licensed victualler, Measham, was charged with selling adulterated whiskey at that place on the 20th August. Captain Sandys deposed to purchasing the whiskey in question, which was found upon analysis to be 27·5 degrees under proof. The adulteration was not large, but he (Captain Sandys) was compelled to take these proceedings in the discharge of his duty. Mr. A. H. Timms submitted, on behalf of the defendant, that there was no intention on the part of his client to defraud the public. He had only added the amount of water which he honestly believed the Act of Parliament permitted, and the weakness of the liquor must have been due to the evaporation occasioned by the keeping of it in a warm room, such as a bar parlour invariably was.—The Bench took a lenient view of the offence, and imposed a fine of 10s. 6d. and 21s. costs.

### AN INGENIOUS AND DANGEROUS FRAUD UPON GROCERS.

A PROSECUTION at Newcastle-under-Lyme on October 9th disclosed a practice against which grocers will do well to be on their guard. A grocer's assistant, employed by Messrs. Slater, of Manchester, who have a branch establishment in the Iron-market, Newcastle, was summoned by Sergeant Bentley, inspector under the Margarine Act, for selling margarine as butter on September 25th, and for obtaining 15s. 4d. from Alice Julia Astley, of Mortimer-street, Ashfield, by false pretences. Mr. S. Watson prosecuted, and Mr. T. B. Sproston defended. The allegation was that the defendant went to Mrs. Astley's shop with a basket of what looked like pure butter. He said he had been sent by Mr. Lees, who is a grocer, on the Green, and that he was in the habit of supplying that grocer with fresh butter. On this date he had sent too much to Mr. Lees. Mrs. Astley tasted from 11lb., which was fresh, and bought 16lb. for 15s. 4d. When tasting the other 15lb. later in the day she found that it was margarine, though some of the pounds had pieces of pure butter on each side. The analysis showed that it was inferior margarine. The whole question turned on the identity of the defendant, which he directly disputed. Mr. Sproston said Messrs. Slater were determined to do their best to find the man who had swindled many people in this way, but it was denied *in toto* that the man was the defendant. Witnesses were called who said they had bought "butter" from a man who was like, but who was not, the defendant, and other evidence was called to prove that the defendant was in the shop of Messrs. Slater at the time alleged. The case was ultimately dismissed, and a warrant was granted against a man said to be named Johnson, who was alleged to be the man who had sold the margarine. The Bench entirely exonerated Messrs. Slater from blame, and Mr. Sproston said the firm would spare no expense to procure the arrest of the alleged offender.

### SELLING CASSIA FOR CINNAMON.

AT Dumfries, David McNay, chemist, Thornhill, and John Cuthbertson Pendreigh, chemist, Thornhill, were charged with selling an ounce of ground cassia to Inspector M'Kirdy when asked for an ounce of ground cinnamon. A plea of guilty was tendered in each case, and Mr. Thompson argued that everybody knew when they got the cheaper article that it was cassia—in fact, it was Chinese cinnamon, while the other was Ceylon cinnamon. Sheriff Campion said people were entitled to get the article they asked for, no matter what the price charged might be. He fined each of the defendants £1, with 21s. 6d. of expenses.



### THE "WARRANTY" DEFENCE FAILS AT JARROW.

AT Jarrow on October 11th, Charles Watson, dairyman, was charged with offences against the Food and Drugs Act. Mr. W. S. Daglish prosecuted, and Mr. R. W. C. Newlands defended.—Edward Batey, sanitary inspector, said that on the 19th ult. he purchased some milk at defendant's shop. He sent a sample to the analyst, whose report stated that it contained 12 per cent. of extraneous water. On the following day he purchased from one of defendant's employees in the street a quantity of milk, a sample of which had been sent to the analyst, whose report stated that it contained 7 per cent. of extraneous water.—Mr. Daglish said he understood defendant had a warranty from the people who supplied the milk, and he would ask the Bench, if the warranty was not considered satisfactory, to impose a penalty.—Mr. Newlands put in a warranty from Mr. Shepherd, farmer, of Northallerton.—The Bench held that the warranty did not hold good in either of the cases before them, and imposed a fine of 40s. and costs in each case.

### GETTING AT THE WHOLESALE DEALER.

EDWARD RUDD, grocer, Burton-on-Trent, was charged at the instance of Captain Sandys, inspector under the Food and Drugs Act to the Derbyshire County Council, with an offence against the Margarine Act at Church Gresley, on May 15th. The case arose out of a transaction between a grocer named Hardwick, of Church Gresley, to whom Rudd supplied a quantity of a commodity purporting to be butter—and for which he was charged butter price—which turned out to be adulterated to the extent of 95 per cent. Captain Sandys brought an action against Hardwick, and the Bench believing that the latter had acted in a *bona-fide* manner in purchasing the article, dismissed the case. In pursuance, therefore, of his duty as a public servant, he took the present proceedings against Rudd. Mr. Musson, who appeared for the prosecutor, briefly related the facts of the case, and called evidence as to the ordering of the butter, for which 11½d. per lb. was paid. The Bench considered the case a very bad one, and fined defendant £5 and costs, with the alternative of one month's imprisonment.

### SUPPRESSING ADULTERATION IN WEST HARTLEPOOL.

AT the West Hartlepool Police-court recently, Shadrach Dunning, Oxford-street, West Hartlepool, was charged with selling adulterated milk. John Nicholson said he was engaged by Mr. Wheat, sanitary inspector, and on the morning in question he went to the shop of Mr. Dunning and asked for a pint of new milk.—Mr. T. Wheat said that upon the purchase he went into the shop, and as he entered the shop he took the jug from the last witness. Defendant told witness he had made a mistake and sold the old milk. Defendant and his wife went into a room and returned a few minutes later. The defendant's wife made an attempt to get the jug from witness, but he told them he would have to go and get it analysed. When analysed he found that the milk contained 40 per cent. of water.—Defendant was fined £5 and costs.—William Hauxwell, Seaton, was charged with a similar offence.—Mr. Wheat said when analysed the milk was found to contain 20 per cent. of water.—The Bench took into consideration defendant's long residence in the town, and the fact that he had not been charged with a similar offence before, and he was fined £2 and 11s. 6d. costs.

### HOLBORN AND THE PUBLICATION OF CONVICTIONS.

A DEPUTATION from the Metropolitan Grocers' Association, headed by Mr. Maurice Piper, waited on the Board with reference to the publication of convictions obtained against certain traders in the district under the Food and Drugs Act. Mr. Piper said that the deputation was not there to exculpate fraudulent traders, but to seek protection for those who, possibly through no fault of their own, had convictions obtained against them. The fact that there were only eight convictions obtained by the Board in the course of the year showed that trade was carried on in that district in a straightforward and honorable manner. He did not know of any other district where the process of publication of the names was adopted, and he hoped that it would not occur again. In St. George's, Hanover-square, a register was kept which was open to the inspection of the public, but there was no publication of the names. In reply to Mr. Jacobs, Mr. Piper said that he was not aware that a similar practice to that adopted by the Board was in vogue in the St. Giles and Clerkenwell districts. On the suggestion of the chairman, the matter was referred to the Sanitary Committee for consideration and report.

### THE "PRODUCE MARKETS REVIEW" ON ADULTERATED GINGER.

"It may be noted that ginger is undoubtedly a food, says the *Produce Markets Review*, and, in fact, is more distinctly so than any other spice, from the large proportions in which it is used—for example, in gingerbread. The perversity of our judges in seeking to defeat the intentions of Parliament and the dictates of common-sense through legal quibbles is unhappily notorious. But, as a matter of fact, even if ginger were "legally" decided not to be a "food" (which it is), it is undoubtedly a "drug" within the meaning of the Adulteration Law; and offenders therefore cannot escape the consequences of the sale of spent ginger—a fraud in itself, and all the more so from the meanness which characterises it.

### ADULTERATION PROSECUTION AT LINCOLN.

JOSEPH GOODALE, milk seller, of Steep-hill, was summoned at Lincoln on October 6th, for selling milk from which 22 per cent. of natural fat had been abstracted, on September 23rd.—Mr. Durance appeared for the defendant, and Mr. Brogden was present to represent the "Creamery," Portland-street. Sergeant Bradley deposed to purchasing milk for analysis, from the defendant, in Foster-street, on Sunday morning, September 23rd. He told the defendant it was for analysis, and he replied that he hoped it would be all right, but he purchased it from the Creamery. The analyst's certificate was to the effect that 22 per cent. of natural fat had been abstracted.—In reply to Mr. Brogden, witness said he had taken samples of milk from the Creamery, and they had been found genuine.—Mr. Durance said the defendant always took six or seven gallons of milk from there or some other place in Portland-street, and this was left for him in a "churn" near the bank of Messrs. Smith, Ellison, and Co. He found it there on the Sunday morning in question, and a man named Enderby helped him to put it in his own can, which was empty at the time. He had bought milk from another party that morning but he sold it before. The milk he was selling was that which he had taken up near the bank. He (Mr. Durance) added that he understood the milk came from Derby in a large churn. It had probably stood at the station all night, and the cream would rise to the top. It was likely that those who got the milk from the top of the churn would get all the cream, which would account for the other milk being deprived of some of its fat; they were not charged with adulteration. Thos. Enderby deposed to helping the defendant to empty the churn into his own can.—Mr. Mansell (chief constable) said the defendant was convicted on January 26th, 1893, for selling adulterated milk.—The magistrates convicted the defendant, and imposed a fine of 30s., including costs.—The Magistrates' Clerk (Mr. Manby) said retailers of milk could protect themselves from penalties if they got a warranty of genuineness from the wholesale dealer.—Mr. Brogden said that as the name of the Creamery Company had been mentioned, he wished to say, on behalf of the proprietors, that they purchased the very best milk they could procure. They emphatically denied that any milk which was purchased from them was not pure and genuine. The defendant had purchased two or three gallons of milk from another source, and that was "separated" milk. It would be unjust to allow the statement to go forth that the milk was from the Creamery.—The Mayor said there was no charge or blame attached to the Company.

### DERBYSHIRE ANALYST'S REPORT.

MR. JOHN WHITE, F.I.C., county analyst, reports:—"I have the honour to report that during the quarter ending September 17th, 217 samples of food and drugs have been submitted to me, as follows:—63 by Colonel Shortt, 58 by Captain Sandys, 56 by Inspector Outram, and 40 by Mr. F. A. Shortt. The samples consisted of the following articles: Milk, 41; butter, 45; whey-butter, 1; lard, 8; cheese, 1; coffee, 21; oatmeal, 21; pepper, 10; mustard, 7; arrowroot, 1; ground ginger, 5; linseed meal, 4; tartaric acid, 3; precipitated sulphur, 1; malt vinegar, 6; whiskey, 30; brandy, 5; rum, 5; gin, 2. Five of the 41 samples of milk proved upon analysis to be adulterated, two with 8 and 15 per cent. of added water respectively, while two others were deficient in fat to the extent of 15, and one to 25 per cent. Besides these samples no less than 10 others were of poor quality, and I would point out that in all probability many of these were really cases of slight adulteration. In view, however, of the attitude maintained by the Somerset House officials, the public analyst has no option but to pass as genuine samples of milk which he has every reason to believe have been tampered with. I would here call attention to the fact that when the vendor of the sample of milk which I had certified to contain 15 per cent. of added water was brought before the magistrates, the Bench dismissed the case, although my analysis was not disputed. It would be interesting to know the reasons which influenced them in coming to such a decision. The local paper heads its report, "A Paltry Milk Case," but as milk is the chief food of infants and invalids, its dilution with water to this extent appears to me to be most serious, rather than "paltry." Five of the 45 samples of butter were adulterated, three being specimens of what is legally known as margarine, each containing at least 90 per cent. of fat foreign to butter, while two contained a slightly excessive amount of water, viz., 18 per cent. No proceedings were taken in the two latter cases in face of previous magisterial decisions. Since these samples were submitted Mr. R. Bannister, the deputy-principal of the Somerset House Laboratory, in giving evidence before the Select Committee in the House of Commons, now sitting to inquire into the working of the Sale of Food and Drugs Act, is reported to have stated that 16 per cent. of water was the highest amount allowed in butter. This is a satisfactory pronouncement, and one which it is to be hoped will be adhered to. The very large proportion of 11 of the 21 samples of coffee were adulterated with chicory, the quantity added varying from 10 to 80 per cent. These cases are very surprising to me, as the sale of mixtures of coffee and chicory, without notification of the admixture being given to the purchaser, is becoming somewhat rare; it is evident that the systematic working of the Act now going on through the county is having good results. One sample of oatmeal was adulterated with 10 per cent. of barley meal, and another contained a very small quantity, the



presence of which was probably accidental. One sample of mustard contained 10 per cent. of wheat starch, together with a little turmeric, the object of the latter addition being to restore the yellow colour to the mixture. One sample sold as malt vinegar had been adulterated with at least 20 per cent. of water, while upwards of 50 per cent. of the acetic acid present had not been derived from malt. This was one of the sham vinegars which have been so largely sold of late under the name of malt vinegar, and which are frequently made by mixing crude acetic acid with some genuine vinegar, and then, if necessary, colouring the mixture. Such articles have no more right to be called vinegar than a mixture of alcohol and water would have to be called wine. The dilution with water had reduced it to about half the strength of vinegar as usually sold, and it was far the worst specimen of imitation vinegar I have ever analysed. Five samples of whiskey were adulterated with water over and above the amount permitted by the Act, the amounts in excess varying from 3.5 to 17 per cent., and four others, one of brandy and one of rum, were each slightly below the standard. The amount of the excess in each of the latter instances did not appear to warrant prosecutions being undertaken. The whole of the other articles proved to be genuine. The total number of adulterated samples was 29, which gives a percentage of 13.3. The five samples submitted by Captain Sandys, and which were held over from last quarter, proved to be genuine, with the exception of one sample of butter, which contained 23 per cent. of water; an extremely excessive amount. In addition to the work under the 'Sale of Food and Drugs Act, I have up to the present time analysed 40 samples of water and 5 samples of sewage effluent, under the direction of the Public Health Committee, to whom the results of my analyses have been reported. I have not yet received any samples under the "Fertilisers and Feeding Stuffs Act."

#### TINCTURE OF SENNA ADULTERATION.

At the North London Police-court on Saturday last, a case was heard in which Mr. John Charles Meacher, chemist, of Seven Sisters-road, was summoned by Mr. Arthur Liddon Bridge, an inspector of the Middlesex County Council, under the Adulteration of Food and Drugs Acts, for selling a drug, to wit, tincture of senna, containing only one half of the extractive matter due to the tincture of senna of the British Pharmacopœia and also deficient in spirit 20 per cent. Defendant was also summoned for selling sulphur soap which contained no sulphur at all. The cases were taken separately. In the senna case the defendant was represented by Mr. Lewis Thomas, barrister, on the sulphur soap summons by Mr. Ruegg, barrister. Mr. Edward Bevan, public analyst for Middlesex, said in cross-examination that there was no standard for tincture of senna in the British Pharmacopœia. Also that if no drop of real tincture of senna were present the whole would in degree be of the nature of tincture of senna, but it would not be of the substance or quality.—Mr. Bridge, asked if he knew anything of tincture of senna, replied, "Yes, I have had many persecutions for drugs; in my experience it is often adulterated by means of diluted spirits after leaving the makers."—Mr. Lewis Thomas, in defence, said that there had been evaporation of the spirit contained in the tincture.—Mr. Bevan said he had allowed for this.—Mr. Lewis Thomas: The drug was supplied by Messrs. Langton, the wholesale druggists at Finsbury, and sold as purchased. Mr. Herbert Collins, pharmaceutical chemist, gave evidence to the effect that not only was there no standard for tincture of senna, but Professor Altfield and other eminent chemists had said the weaker the drug in spirit the more effective. Mr. Lane, Q.C., the magistrate, said "That is a startling proposition, I fine the defendant 10s. with £1 10s. costs."

#### SULPHUR SOAP CONTAINING NO SULPHUR.

The prosecution held at the North London Police-court on October 13th, that sulphur soap was a drug and pointed out to the magistrate that the definition of a drug was a medicine for outward or inward application, *vide* Section 2 paragraph 2 of the Sale of Food and Drugs Acts 1875. Mr. Ruegg laughed.—Mr. Lane, Q.C. (the magistrate): Why should not sulphur soap be a drug if it is used for skin disease?—Mr. Bridge said he purchased the soap on September 18th, and the assistant said, "If there is no sulphur in it, Frazer's will have to answer for it."—Cross-examined, Mr. Bridge said he was not put up to get it by a rival manufacturer. He expected to find sulphur in the soap, in fact he had found sulphur in soap, but, according to the analyst, not in this. If he asked for honey soap, he should expect to find it, because honey was a stimulant to the skin.—Mr. Ruegg said that with each tablet of soap Frazer issued a notice, which said that the soap was not sold as a curative soap, *but it was recommended for persons who suffered from skin disease.*—Mr. Bridge said that a notice to that effect was certainly not given with the soap he bought, but only contained a notice crying the virtues of the sulphur tablets made by the firm. The box had the following legend "Frazer's Sulphur Soap" in gilt letters. Mr. Lane said the prosecution had failed to prove that sulphur soap was a drug, he therefore dismissed the summons. Mr. Lane refused to allow Mr. Bridge to be questioned as to the quality therapeutically considered of this so-called sulphur soap.

A recipe is certainly known, and is due to Sir H. Roe, an eminent physician, who employs about 50 per cent. of sulphur, and 50 per cent. of soap. Sulphur, therapeutically considered, is one of the very best samples in the whole range of materia medica, it is one of the very best laxatives; in small doses it is absorbed into the blood, and acts as a stimulant to the skin and different mucous membranes, partly passing off from the skin as sulphuretted hydrogen, and partly from the skin in an oxidised state. Externally it is a stimulant and has the power of destroying *all the vegetable parasites that infest the skin.* Sulphur is also given as a stimulant in chronic cutaneous diseases. Sulphur was made in the years 1812-13 by Helmerick, a physician in a kind of soap, as follows:—

Sulphur	...	...	...	...	...	2 parts
Carbonate of Potash	...	...	...	...	...	1 "
Lard	...	...	...	...	...	8 "

said to cure the itch in 18 hours. Hardy, another physician, uses half soap and half water. Dr. Behrund in the Berlin hospital, uses the following:—

Sulphur	...	...	...	...	...	8 parts
Liquid tar	...	...	...	...	...	8 "
Soft soap	...	...	...	...	...	16 "
Lanolin	...	...	...	...	...	16 "
Powdered pumice	...	...	...	...	...	5 "

This, again, may be likened to soap, and when one considers the amount of rubbish palmed off to the public, we can only say that the time is very opportune for a drastic remedy to be applied to manufactures of this kind where deliberate fraud and adulteration is systematically carried on. Of three samples of soap analysed—

One had clouds of sulphur
" two-tenths per cent.
" none.

so that if an average of this kind were to obtain with all samples taken, a vast amount of swindling has in the past been perpetrated. In the face of these facts, Mr. Lane's decision is to be regretted, and sufferers from skin disease who have wasted their money on alleged sulphur soap trash have been egregiously hounded.

# CHAMPION'S MUSTARD

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## MUSTARD SEED ONLY.

CHAMPION & CO., so far as they are aware, are the only makers of importance who  
**DO NOT MAKE AN ADULTERATED MUSTARD.**

CHAMPION & Co. confine their attention to selling only Genuine Mustard Flour, milled and manufactured from Mustard Seed. They frequently sell 20,000 tins of such Mustard in a day in London alone.

To make CHAMPION'S Mustard, it is essential to use only the finest Mustard Seeds, inasmuch as chillies or ginger cannot be employed to produce pungency, nor can turmeric be utilised to secure high colour; consequently ripe and perfectly-coloured Mustard Seed only can be used.



## IMPORTANT GINGER ADULTERATION CASE AT HALIFAX.

At the Halifax West Riding Court on October 13th, William Morton Shaw, grocer, Rastrick, was summoned at the instance of Mr. W. H. S. Crabtree, inspector under the Food and Drugs Act to the West Riding County Council, for having on August 16th last sold a quantity of ground ginger "not of the substance and quality demanded." Mr. Hiley, of Wakefield, appeared for the prosecution and Mr. R. W. Evans for the defence. The alleged adulterant was "a ground mineral called gypsum." The case was defended by Messrs. T. Collinson and Sons, Halifax, and Messrs. Thornes, Limited, of Leeds, and occupied the Court several hours. It appeared that on August 16th Inspector Crabtree purchased at the defendant's shop  $\frac{1}{2}$  lb. of ground ginger, and handed it over for analysis in the usual way.—Mr. Alfred Henry Allen, West Riding analyst, deposed that he found the constituents of the article to be 90 per cent. of ground ginger and 10 per cent. of sulphate of lime, the latter being, in his opinion, the resultant of a ground mineral gypsum mixed with the ginger.—For the defence Mr. Evans called Mr. William Ackroyd, the Halifax borough analyst, whose analysis did not differ materially from that submitted by the prosecution, but he maintained that the sulphate of lime was due to the sulphite of lime used in the bleaching process, and that the large quantity was contained owing to the fact that the tin from which the ginger was taken was nearly empty, and the residuum was therefore left in greater proportion. He denied that a ground mineral was present. Mr. Edward Collinson, Mr. Henry Marshall Thorne (whose firm had ground the ginger for Messrs. Collinson), the defendant, and other witnesses were called.—Mr. Evans, on defendant's behalf, contended first that ground ginger was not an article of food within the meaning of the Food and Drugs Act; secondly, that the defendant had an absolute warranty from the firm he purchased the ginger from that it was "guaranteed genuine best ground ginger;" and thirdly, that the article was not adulterated.—The Bench decided against Mr. Evans on all points, and imposed a fine of 20s. and costs.—Mr. Evans asked for a special case on the first two points raised, and this was granted, the Chairman (Mr. T. H. Morris) adding that the Bench fully recognised the importance of the case.

## CHARGE OF BUTTER ADULTERATION.

At Bury St. Edmund's, on October 10th, William Sayer, Woolpit, was charged with having sold butter adulterated with 15 per cent. of foreign fat. Mr. E. P. Ridley, Ipswich, defended.—Inspector Cole, stationed at Ixworth, proved the purchase of a pound of salt butter from defendant, which at witnesses's request defendant separated into three parts, of which witness took two, and the other defendant retained. One he sent to Mr. James Napier, the county analyst, who certified that the sample contained the parts as under:—Fat, 82·68 per cent.; curd, 1·07; salt, 3·25; water, 13·00; specific gravity of fat at 100 degs. F., 908·7, and added "I am further of opinion that the same contained at least 15 per cent. of fat other than butter fat. No change had taken place in the constitution of the sample that would interfere with the analysis." In cross-examination, Inspector Cole said he took samples from three other persons that day. During the time Mr. Sayer was separating the pound of butter into three, witness said he supposed he knew the purpose for which he wanted the butter, and Mr. Sayer quite understood. He told defendant in effect that he was buying the butter for the purpose of having it analysed.—Defendant was called by Mr. Ridley, and said he bought the butter as butter and sold it in the same state as he purchased it. He gave £5 a cwt. for it, which at the time was the highest price for that sort of butter.—Mr. Ridley pointed out that by Section 15 of the Act it was absolutely necessary that the constable making the purchase should state to the shopkeeper that he was buying for the purpose of having the goods analysed by the public analyst, and he quoted a case in which it was laid down that the use of these words was a condition precedent to a conviction. Next the purchase was on August 29th, and the summons was not served till September 29th; the Act laid it down that the summons must be served within 28 days, and that requirement had not been complied with. Further defendant had told them he purchased the article as butter, and sold it as he bought it, and under Section 7 that was enough. He did not, however, wish entirely to rely upon these legal objections, preferring, if possible, that the merits of the case should be dealt with by the Bench. The butter in question came from the largest shippers in Cork, from a purchase of 1,000 casks, and there had been two or three analyses of the same butter in different parts of the country, which had proved in every way satisfactory. The sample left by Inspector Cole was sent to Cork as soon as he (Mr. Ridley) received instructions, and he received on the previous night a telegram from Cork giving the results of the analysis as follows:—"Mailed 2·40 train to-day, analyst's certificate result—Water 11·86, butter fat 83, curd 1·85, salt 3·49, no foreign admixture in butter fat." Mr. Ridley went on to contend that on the face of that analysis the County Analyst had been mistaken, the butter being absolutely pure and containing no mixture. He was willing to have the case adjourned to prove the analysis.—The Chairman: We think the Act of Parliament has not been fully complied with in this case, and therefore we dismiss it.—Mr. Ridley asked that the sample retained by the police should be handed to him for the purpose of analysis.—The Chairman said the Bench declined to make any order, as the police objected to give up the sample.

The butter in question was supplied by Mr. H. W. Raffe, wholesale provision merchant, Ipswich, who asks us to make public the following analysis of the portion of butter left with Mr. Sayer. It is that referred to by Mr. Ridley:—

Water	...	...	...	...	11·66 per cent.
Fat	...	...	...	...	83·00 "
Curd	...	...	...	...	1·85 "
Salt	...	...	...	...	3·49 "

Examination of the clear filtered fat.

Specific gravity at 100 deg. Fahr., '9124.

Water at 100 deg. Fahr. being taken as unity.

Reichst Meissl figure for 5 grammes fat 27 c.c. of

N

— K.O.H.

10

Koettstorfers figure for 1 gramme 235·7 milligrammes

K.O.H.

From a thorough examination of the sample of fat got from this butter I am of opinion that it is pure butter fat, free from admixture with foreign fat. This is a sample of pure butter, but deteriorated in quality owing to being kept.

DANIEL J. O'MAHONY, F.C.S.,

Public Analyst, Cork city and county.

October 9th, 1894.

The earliest opportunity after service of summons that defendant's analyst had of analysing the sample was October 6th, an interval of five weeks and two days from the date of the inspector's purchase, during which time the portion left by him had been wrapped in paper, which fully accounts for the deterioration of quality.

## CORRESPONDENCE.

To the Editor of FOOD AND SANITATION.

October 12th, 1894.

DEAR SIR,—I have just received my copy of FOOD AND SANITATION, in which I see an account of a case I had at the Brentford Petty Sessions of excess of water in butter. This was a very simple case indeed, and calls for no remark in itself. But, what does astonish me is to read, "*Mr. Walter Tyler watched the case.*" I assure you, sir, Inspector W. Tyler had nothing to do with watching my case whatever officially, and to publish such a statement seems a piece of mean impertinence, to say the least of it. If we chanced to be at the same Court the same day one must hear the cases of the other, but each must answer for his own cases and district. I trust, sir, with your usual fairness, you will put this matter in its true light. I dislike this mean insinuation, it is most unfair, and will be, I am quite sure, read with astonishment by my brother inspectors.—Yours faithfully,

ROBERT WATTS.

Weights and Measures Office,  
Willesden Junction.

[We published the report as it was sent to us, and the paragraph to which Mr. Watts objects, with the possible inferences that might be drawn from it, escaped our attention, or it would certainly not have been printed in this journal.—EDITOR.]

## SOMERSET HOUSE AND PUBLIC ANALYSTS.

The following correspondence has passed between Mr. A. H. Allen, scientist of world-wide reputation, author of that standard work "Commercial Inorganic Analysis," and Mr. E. Bannister, a Somerset House official chemist who gave evidence before the House of Commons Select Committee.

67, Surrey-street, Sheffield,

July 21st, 1894.

Dear Mr. Bannister,—I was much surprised at the evidence you gave on Wednesday last before the Committee on Food Products Adulteration respecting a sample of malt vinegar, marked "V.I.," recently referred to Somerset House by the Sheffield city magistrates. I have waited until I had the opportunity of seeing your evidence in print before communicating with you, as I thought I must have misunderstood you. From your replies on page 93 of the evidence, it would almost seem as if you supposed that I had certified to the sample containing 80 per cent. of acetic acid from wood. On reference to the letter sent at

## CONTRACTS FOR DISINFECTANTS.

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To Local Boards of Health, Vestries, and Sanitary Authorities generally.

THE SANITAS COMPANY, LTD., beg to give notice that they have reason to believe there are several unprincipled firms who are offering for sale more or less worthless and fraudulent imitations of the well-known "Sanitas" Disinfectants.

The various "Sanitas" Disinfectants are all manufactured by scientific processes which are protected by Letters Patent, and in order to guard against the nefarious practices above referred to, it is respectfully suggested that all contracts for "Sanitas" Disinfectants and Appliances should be entrusted to the Sanitas Company, Ltd., who are the sole manufacturers, or that a stipulation should be made making it obligatory upon contractors to supply the goods in our original sealed packages.

## THE SANITAS COMPANY, LIMITED

(C. T. KINGZETT, F.I.C., F.C.S., Managing Director)

LETCHEFORD'S BUILDINGS, THREE COLT LANE, BETHNAL GREEN, LONDON, E.



your request by the clerk to the magistrates, you will find that what I alleged was that the sample contained 80 per cent. of *acetic acid derived from other sources than malt*, and only 20 per cent. derived from malted or unmalted grain. It was quite evident from the analysis that a part at least of this adulteration was not a fermentation-product, and therefore, in the face of the decision of the *Birmingham Recorder*, it would not have been correct to have called it 80 per cent. of *vinegar* from other sources than malt; but it is quite clear that the term "acetic acid from other sources than malt" includes sugar vinegar, and it has been a matter of great surprise to those concerned in the case that the referees did not report to this effect. Nothing was mentioned about wood-acid in the original certificate, or in the letter you received from the clerk of the magistrates, and I still fail to understand why you imported that element into the case. I note that you say there is no test for wood-acid, and yet you certified to the presence of it, and shall be obliged if you will explain to me how you arrived at that conclusion. I shall be glad if you will state, for the information of myself and the Health Committee of the City of Sheffield, how much, in your opinion, of malt-vinegar—that is vinegar derived from malted and unmalted grain—the sample in question contained, as that was clearly the question referred to you. I alleged 20 per cent., and from the figures given by the defendant in the witness-box, the calculated amount closely corresponds with this result.—I do not know what the Inland Revenue officer was told when by your instructions he visited the defendant's works; but I have good reasons to believe that the acetic acid employed by the defendant was that of the character commercially known as "1-8 acid," specially sold for adulterating vinegar, and containing a notable quantity of alcohol added for the express purpose of deceiving the referees and public analysts. You appear to have fallen into the trap, and supposed it to be a fermentation-product. I learn from your evidence that you are always ready to communicate information to public analysts when requested, and shall therefore be obliged if you will let me have a reply to the foregoing questions at your early convenience.—I remain, yours very truly,

Richard Bannister, Esq., (Signed) ALFRED H. ALLEN.  
Inland Revenue Laboratory,  
Somerset House, London, W.C.

The Government Laboratory, Somerset House, W.C.,  
July 27th, 1894.

DEAR SIR,—I am sorry that, through pressure of work connected with the Committee on Food Products Adulteration, I have been compelled to postpone my reply to your letter till now. The reply that I gave to Mr. Kealey's question arose from his quotation of the reference letter of Mr. Charles E. Vickers, clerk to the Sheffield justices, which was that the nature of the alleged adulteration consisted of 20 per cent. of malt-grain vinegar, and 80 per cent. of *diluted* acetic acid not derived from malted or unmalted grain. In your letter you leave out the word *diluted*, which qualifying word justified me in concluding that the origin of the 80 per cent. of diluted acetic acid was strong acetic acid, which had been diluted to the required strength.—Believe me, yours very truly,

A. H. Allen, Esq., (Signed) R. BANNISTER.  
Public Analyst, Sheffield.

67, Surrey Street, Sheffield,  
July 28th, 1894.

DEAR SIR,—I am in correspondence with Mr. Bannister, the Deputy-Principal of the Somerset House Laboratory, respecting the certificate he gave on a sample of vinegar recently referred to him by the Sheffield city magistrates. Mr. Bannister says he misunderstood the nature of my certificate, being misled by the words of your letter of instruction. May I ask you to oblige me with a copy of your letter to Somerset House in reply to their request for information as to the nature of the alleged adulteration. Thanking you in anticipation.—I am, dear sir, yours truly,  
Charles E. Vickers, Esq., (Signed) ALFRED H. ALLEN.  
Clerk to the Magistrates, Sheffield.

The Court House, Sheffield,  
July 30th, 1894.

#### VINEGAR.

DEAR SIR,—Your letter of the 28th inst. to hand, and, as therein requested, forward you a copy of my letter to Mr. Bannister respecting the above.—Yours truly,

CHAS. E. VICKERS,  
per G. H.  
Alfred H. Allen, Esq.,  
67, Surrey Street, Sheffield.

The Court House Sheffield,  
June 5th, 1894.

#### THE SALE OF FOOD AND DRUGS ACT, 1875.

SIR,—Your letter and enclosure—extract from the Local Government Board's circular of September 30th, 1875—received, and in reply beg to say that the nature of the alleged adulteration consisted of 20 per cent. of malt-grain vinegar and 80 per cent. of diluted acetic acid not derived from malted or unmalted grain.—I am, Sir your obedient servant,

CHAS. E. VICKERS (per G. H.),  
Clerk to City Justices.  
R. Bannister, Esq.,

Inland Revenue Laboratory, Somerset House, London, W.C.  
67, Surrey Street, Sheffield,

August 3rd, 1894.

DEAR SIR,—I enclose you a copy of the certificate which I gave on the sample of vinegar recently referred to you, which you will see differs materially from the description of the accusation given in the letter of instructions from the clerk to the magistrates. I quite agree with you that the word "diluted" bears a different signification from "dilute," and justified your misapprehension of the real nature of the accusation. It is a great pity that Mr. Vickers did not send you an actual copy of my certificate. I note from your evidence that you are always willing to communicate your limits to public analysts who apply for them, and I shall therefore be glad if you will inform me what limits you adopt for malt-vinegar. May I also trouble you to state the limits you adopt for tincture of rhubarb, as this is an article which one of my inspectors not unfrequently sends me. Thanking you in anticipation for an early reply.—Believe me, yours very truly,  
R. Bannister, Esq., (Signed) ALFRED H. ALLEN.  
Somerset House Laboratory, London, W.C.

#### ANALYST'S CERTIFICATE.

To the Health Committee of the Borough of Sheffield,—I, the undersigned, public analyst for the borough of Sheffield, do hereby certify that I received on April 2nd, 1894, from Inspector Harrison, a sample of "malt-vinegar" for analysis, and was marked "V.1," and have analysed the same, and declare the result of my analysis to be as follows. I am of opinion that the said sample contained the parts as under:—

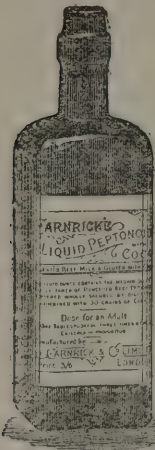
Malt or Grain Vinegar	20 per cent.
Dilute Acetic Acid not derived from Malted or Unmalted Grain	80 " "
	100

As witness my hand this 18th day of April, 1894.

(Signed) ALFRED H. ALLEN,  
At Sheffield.

Government Laboratory, Somerset House, W.C.,  
August 4th, 1894.

DEAR SIR,—In reply to your letter of yesterday, asking for the limits we adopt for malt-vinegar and tincture of rhubarb, I beg to inform you that we are unable to adopt a limit in either case, and are compelled to make each sample submitted to us stand on its own merits. The difficulties connected with these examination are, I am sure, well known to you, and you will fully appreciate the difficulty of speaking more specially on the subject.—Believe me, yours very truly,  
Alfred H. Allen, Esq. (Signed) R. BANNISTER



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THE MOST CONCENTRATED AND NUTRITIOUS FOOD IN THE MARKET.

"It would take 80 pints of Beef Tea made from 80 lbs. of steak to obtain the flesh-forming constituents present in one pound of CARNRICK'S BEEF PEPTONOIDS."—PROF. STUTZER, BONN.

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67, Surrey Street, Sheffield,  
August 14th, 1894.

Dear Sir,—I duly received, and am much obliged for, your letter of the 4th inst., and to which I should have replied sooner but for the intervention of the holidays. I fully appreciate the difficulty of laying down limits for such articles as malt vinegar and tincture of rhubarb, but unfortunately, in practice one is constantly required to meet this difficulty. I not infrequently have to report on samples of tincture of rhubarb, which I do to my own satisfaction on the basis of a series of experiments instituted for the purpose; but I have no certainty that, in the event of my analysis being disputed, and the sample referred to Somerset House, your opinion will not be formed on wholly different data. I therefore appeal to you to inform me what data and limits of composition you would rely on supposing that to-morrow a sample of tincture of rhubarb were referred to you under the Act. Similarly, I request you to inform me what data and limits of composition you would rely on in the case of a sample of malt-vinegar referred to you. I am anxious for this information in order to avoid the annoyance and scandal which result from the disagreement of the referees with the certificate of a public analyst. As an instance in point, I may say that a sample of vinegar, which the manufacturers admitted to me to be largely adulterated with acetic acid, was declared by you to be genuine malt vinegar. While urgently requesting a reply on the general questions above submitted, I shall be greatly obliged if you will give me your opinion on the following figures, which I obtained by the analysis of a sample sold as "malt vinegar." The case is quite distinct from the one above-mentioned, where you passed as genuine one admittedly largely adulterated.

Specific gravity	...	...	...	1.0130
Per 100 parts of vinegar :—				
Acetic acid	...	...	...	4.56
Total extractive matter	...	...	...	1.70
Ash	...	...	...	0.34
Alkalinity of ash in terms of $K_2O$	...	...	...	0.056
Phosphoric acid ( $P_2O_5$ )	...	...	...	0.023
Sulphuric acid ( $SO_3$ ) combined	...	...	...	0.020
Nitrogen	...	...	...	0.029

Requesting the favour of a reply at your early convenience,—  
Believe me, yours very truly,

R. Bannister, Esq., (Signed) ALFRED H. ALLEN.  
Government Laboratory, Somerset House, London, W.C.

Laboratory, Somerset House, London,  
August 15th, 1894.

Dear Sir,—With reference to the fixing of standards for tincture of rhubarb and malt vinegar, I have nothing to add to the remarks contained in my previous letter. It is practically impossible to lay down general limits for such articles, and I think the experience of the last six months, with reference to the composition of malt vinegar, must prove how imprudent it has been for analysts to rely on so-called standards, which before the magistrates have been proved to have no solid foundation. May I trespass on your kindness for such information about the sample of vinegar you refer to, which was passed by us as genuine malt vinegar, and which admittedly was largely adulterated, as will enable me to identify it. I shall be much obliged if you will do so.—Yours very truly,

Alfred H. Allen, Esq., (Signed) R. BANNISTER.  
Public Analysts' Laboratory, 67, Surrey Street, Sheffield.  
(To be continued.)

## THE SELECT COMMITTEE ON ADULTERATION.

### CONTINUATION OF MR. BANNISTER'S EVIDENCE.

XV.

(Continued from page 328.)

Now, under Section 2 of the Merchandise Marks Act, the Board of Trade have the power of prosecuting offenders who consign goods as being something different from what they really are?—Yes.—Do you know whether that Section has been put into force so far as regards the importance of butter?—I do not know that it has. I believe that it has been put in force with regard to some silk, or something of that kind, in the midland counties. I know that there was a prosecution in the midland counties under that very Act, under the power given to the Board of Trade.—You mentioned that several samples had been referred to your Department by various Government Departments; can you tell us how many of these samples consisted of milk, and how many of butter?—I cannot, unless I refer to our books; but, so far as butter is concerned, we examined the whole of the butter that is used in the Admiralty hospitals, and also the butter that is bought for the use of the Admiralty, and for the India Office; so that we examine a goodly number of samples of butter during the year.—Would some of that be tinned butter to go with the Fleet?—Yes. I ask you the question because those two articles, milk and butter, form the largest proportion of the samples mentioned by you as having been referred to you under the Sale of Food and Drugs Act?—That is so.—I notice that you mentioned two samples of water referred to you under the Sale of Food and Drugs Act; what water would that be?—That would be water referred to us under the Public Health Act by the magistrates.—I notice that the Sale of Food and Drugs Act expressly excludes water?—

Yes; we do not make a separate return of milk and water, but those samples were referred to us by the magistrates under the Public Health Act.—With regard to the cases that you mentioned of your analysis differing from those of the public analysts, I think you said that in 474 cases you agreed, and that you disagreed in 188 cases; is that so?—Yes.—Could you tell us whether this disagreement took place in the earlier stages of the working of the Sale of Food and Drugs Act?—I have not got the returns for every year, but I think I have got the return for the last three or four years here; and I looked at that and thought that there was very little difference.—Why I ask you is, that I notice in one of your reports it says that a year or two ago you had 47 samples submitted to you, and that you disagreed only in two cases, so that it occurred to me that the disagreement was lessened?—There is no doubt that it was up to a certain time. I think last year there was a little difficulty about margarine, but if I remember rightly there was a steady decrease.—That is to say, a steady decrease in the number of disagreements between Somerset House and the public analysts?—Yes.—I suppose it necessarily followed that some of the samples submitted to public analysts would be wrongly reported upon by them?—No doubt.—But in the general working I presume you are of opinion that the public analysts have done their work efficiently?—I think that during the last six or eight years of the working of the Sale of Food and Drugs Act the work has been done remarkably well.—And those differences that have cropped up between you have been (I am quoting from your evidence) differences rather more as to the interpretation of results than actual mistakes made?—Yes.—That is to say that from the same analytical results two analysts, both working accurately and honestly, may, and very frequently do, arrive at different conclusions?—They do.—But taking your figures for the last 20 years, the average differences between the public analysts and Somerset House have not amounted, so far as my calculation takes me, to more than on an average 10 cases a year?—I daresay that is right.—That is taken from your reply to Question 555, which has reference to milk cases: "In 311 cases we confirmed the decision of the public analysts and in 96 we disagreed." I think that is about right?—Yes.—In the results which you have given us of samples that have referred to you, there were included samples from Scotland and Ireland as well as from England, I believe?—There were.—But the reports of the Local Government Board, as I understand them, only refer to samples taken from England under the Sale of Food and Drugs Act?—I cannot answer that question as regards their return; one return goes in for the whole of them; so far as the references are concerned, it goes in for England, Scotland, and Ireland.—But I have looked at it rather carefully, and I make out that the Local Government Board's Report refers only to samples from England; the average of the samples taken and submitted to the public analyst since the working of the Act would be about 25,000 per year, roughly speaking, I believe?—I should say quite that.—And you disagreed on an average with regard to one sample per 2,500?—That is in the reference.—I would like to clear up one reply of yours here, in answer to Question 556, which may be subject to misconception, although I think I understand it clearly. You stated that you disagreed in about one quarter of all the cases; you do not mean in one quarter of all the samples taken, but only in those submitted to Somerset House as a court of reference?—My answer had nothing to do with the others, so that I hope that my remarks cannot be misunderstood.—I only wanted to make it perfectly clear. There were 16 samples, you told us, sent up for a special purpose, not sent up under the Sale of Food and Drugs Act strictly; what were those 16 samples?—I cannot give you the particulars of them, but they were samples arising out of previous examination; they were not really confined to samples that had been referred by the magistrates from the defendant, but were referred for some special information that the magistrates wanted.—You have had at Somerset House, outside the references that have come to you under the Sale of Food and Drugs Act, a large experience with milk and butter samples?—Yes.—Would that be an experience as large and as varied as that of the public analysts?—The experience would not be so large as that of the public analysts, because they are generally examining milk from morning to night.—But Somerset House is not continuously engaged in making examinations into a large number of samples of butter and milk?—We are continuously engaged in getting accurate results of examinations.—But in a general way should I be over-stating the case were I to suggest that the experience of the public analysts, so far as butter and milk are concerned, is larger than that of Somerset House?—So far as the actual examination of samples is concerned, yes.—And of course the public analysts have their general practice, in addition to the work that comes to them in their official capacity?—Certainly.—They are analytical chemists with a private practice, many of them, I presume?—Yes.—There is going on, I understand, between public analysts, an interchange of ideas, and experiences, and opinions, in connection with analytical science?—No doubt.—And, therefore, would it be fair to assume that they act upon their collective experience, and not upon their individual experience, or, to put it in another way, that the best information that the best of them may procure is placed at the disposal of other analysts throughout the country?—That is so, to a large extent.—And I think it is on record that some of these public analysts have made wonderful researches into, for example, milk samples. I think Dr. Veitch has placed



on record his analysis of over 120,000 samples of milk?—But then Dr. Veitch's experiments, so far as numbers are concerned, are of little value, because he was analyst to the Aylesbury Dairy Company, and therefore, the examination of those samples of milk was done really in the examination of samples that were offered from the farmers from the dairies.—Do you suggest that in consequence of his official connection with the Aylesbury Dairy Company those analyses were not an honest record?—No, I do not assume that for a moment; but what I mean to say is that there is a contract entered into by all those dairy companies as to what quantity of solids not fat milk shall contain, and what quantity of fat, and it is the analysts' duty to see that the milk that they get comes up to their standard quality.—But the fact remains that he analysed those 120,000 samples of milk?—So far as the solids not fat and fat were concerned. Of course, in the analysis of a sample of milk, as a rule, an analyst would go more fully into the analysis of that sample than is necessary for a commercial purpose of that kind.—I suppose from time to time, certainly since the passing of the Act, there has been a great improvement in the science of food analysis?—No doubt.—And the public analysts have contributed very largely to this improvement?—Certainly.—Somerset House, I presume, gets the benefit of that improved knowledge acquired by the public analysts, and avails itself of the information?—Yes; but, of course, in our investigation of food analyses we always try as much as possible to see for ourselves, by direct experiments, the value of the results reported and of the different methods of analysis.—That means, naturally, that you do not necessarily accept in all cases the deductions, or improved results that the analysts announce as having been arrived at?—Exactly.—But in the case of Somerset House arriving at any improved result, or differing in their own minds from some new result, does Somerset House feel it incumbent upon itself to put itself into communication with the public analyst, either to say: Here we have discovered a new method that ought to be known throughout the country, or, We have subjected this new method of yours to close investigation in our laboratory, and we do not agree with the results which you inform us you have arrived at?—We do not make it a general practice, but with some public analysts they are in direct communication with us, and, of course, we interchange ideas and opinions about different methods of analyses.—May I say, then, that there is a close intercommunication continuously being carried on between the public analysts of the country and Somerset House?—With some of the public analysts.—But not with the Society of Public Analysts in its corporate capacity?—No, I can give you a simple illustration of that. When poivrete was being used largely in the adulteration of pepper, one public analyst had a difficulty in separating it so as to show it to the magistrate, and I had the pleasure of showing him exactly how it could be done, and from that time forward the adulteration of pepper with poivrete has ceased completely.—Because the public analyst received this information from you?—He not only could say from its analytical nature that poivrete was there, but he could show the magistrate its presence.—Showing the enormous advantage to the country from that revelation by Somerset House?—Certainly.—And I suppose that Somerset House deems it necessary that there should be this interchange of opinion between it and the public analysts?—It is very desirable.—And may I understand that it is being carried on on a systematic basis, or is it merely casual?—It is on a systematic basis with some members of the Society of Public Analysts.—With those of the most repute, so far as regards reputation?—Yes, men of repute.—And those men are in close communication with Somerset House?—Yes.—Interchanging ideas, and receiving suggestions from you, and conveying suggestions to you?—Yes.—Have you ever conveyed to the public analysts the details of the methods used by you, or of any standards or limits that you use?—As soon as we made an investigation into the composition of food products we published the result of the investigation in two little manuals; we made them general property.—Such as Dr. Bell's little work?—Yes.—But they are published at very long intervals, are they not; you have no journal to convey information such as the public analysts have?—No.—And of those manuals that you refer to, I think, Dr. Bell's little work was published 10 or 11 years ago?—I dare say it was.—When was the other manual that you refer to published?—Two or three years after.—How many years is it since you issued a manual, do you think, from which the public analysts might gain the advantage of your improved experience?—The years I cannot tell you, but you will see it from the two manuals, from the title-page.—But there is no systematic publication to which the public analysts can look for inspirations from Somerset House?—There is not.—I think I understood you to say last time that you considered that possibly public analysts might resent it as dictation were Somerset House to communicate their standards authoritatively to them?—Yes.—What makes you form that opinion?—I think it is fairly apparent that there is a difficulty in that way; for instance, there was an analyst who came to us some years ago who wanted to find out the presence of apples in plum jam. We went into all the trouble and difficulty of showing the method of detection, but a short time afterwards we found that there was a paper written on that very subject, but no reference at all was made to us in any way whatever.—They appropriated your information, and did not give you an advertisement for it.—We did not want an advertisement.—They did not give you the credit of it?—No.—I suppose Somerset House con-

sidered that that was not acting quite fairly?—There are other matters as well; there are other difficulties arising that are very palpable.—With regard to the standards that you may have at Somerset House, the information as to those has been disclosed, I believe, during the hearing of cases in which Somerset House has given evidence?—Yes, the limits.—That is the way in which that information has become public, as a rule; you told us that you had lately altered your standard of milk?—We have altered the limit of fat from 2.5 to 2.75.—Would that be a matter that the public analysts would be acquainted with, or rather informed about?—We stated that distinctly to the different analysts who came up to see it. We have not written officially to the Society of Public Analysts.—With regard to your system of analysing milk, I understand that you have been in the habit of making allowances for decomposition, time allowances?—We are compelled to make allowance for change, because in the samples of milk that you are speaking of they are old milks, not new milks.—They would naturally be old milks before they arrive at Somerset House?—They must be.—And in order to allow for decomposition that has taken place you have a method of calculation?—We see what the change consists of, and work it back again into solids not fat.—Would the public analyst know that table of allowances?—It does not affect them in any way, because they examine the samples of milk when they are fresh.—Do you think that the table of allowances, the time allowances, that you have set forth for your own use, would give the same analytical results when you were dealing with the sample as were apparent to the public analysts when they were examining the sample in a fresh condition?—Generally, but in special circumstances they would not; and, therefore, we have abandoned the time allowance, and we try to trace up the change in the composition of the sample, and work it back again into solids not fat.—I understand that you have rather altered your time allowances in that direction for the last year or two?—I do not think we have; practically they are the same.—When these milks come to you in a stale condition, are you obliged to state whether the article analysed is stale; because under the Act the public analysts have to state on their certificate whether the sample is stale, or has been kept too long?—We examine whether it is fit for analysis, or whether there is any change in the composition of the sample that prevents an analysis being made. That is what I think the analysts have to state.—Do you state that on your certificate?—We do not state on our certificate, but if we come across a sample of milk and we find that it has been improperly kept, so that it is mouldy or decayed, we do not examine it. We say that it is not in a fit condition for examination.—In how many cases, can you give us an idea, in recent years have you been unable to examine such a sample?—I should think in five or six cases.—Does milk becoming decomposed alter its component parts, so far as solids are concerned?—Yes, the solids not fat are altered; the fat remains practically the same.—And it is by this principle of adjustment that you are able to arrive at the correct analysis?—Yes.—May not some of these milks fail to give the same results?—They will not give the same results. If you take two samples of reference milk, the results obtained will not be exactly the same, because they have been kept under different conditions; but we take out the different substances that have been formed, and work them back again into solids not fat, so that if there is a quantity of alcohol formed in the one, and in the other there is none, the alcohol would be worked back again into solids not fat.—Are you aware as to the conditions under which the samples have been kept before they were submitted to you?—We can generally tell from the analysis of samples under what conditions they have been kept.—But when fermentation takes place, is there not a loss of substance incurred?—Yes; but there is a great loss of substance required to produce a certain quantity of alcohol, and when you have that quantity of alcohol you put it back again into the term of the substance that has been used up in the production of it.—So that you can account by your system for loss of substance caused by fermentation?—We have found it to be so.—You do not think that any of the conclusions which you arrive at by that process would be such as would cause you to give a decision contrary to that arrived at by public analysts?—Practically, if the former analyses have been correctly made, they would agree with ours. And there is no chance, you think, of any injustice being done to a public analyst by reason of this system which you adopt in dealing with milks that must necessarily be stale, many of which are in a state of fermentation before you examine them?—I consider that there is no risk of injustice. Do you ever test these milks for the presence of preservatives?—Yes.—Would a milk-bearing preservative show a different result from a milk that was not preserved?—Yes, you would have changed; one would have decomposed more than the other.—And when you detect preservatives do you adopt a different procedure in coming to your final decision?—No; we take the results of the analyses, the quantity of alcohol formed, of ammonia, of acetic acid and so on, and turn it back again into solids not fat.—I refer to the time allowance?—I stated distinctly just now that we had abandoned the time allowance, because we find that in certain conditions the present system is better.—I did not catch that; how long has that time allowance been abandoned, quite recently?—For the last two or three years, but practically they are the same.

(To be continued.)



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# Food and Sanitation.

SATURDAY, OCTOBER 27TH, 1894.

## THE ETHICS OF THE TEA TRADE.

It is nearly a year since we exposed the tea swindle, a part of which was revealed before Mr. Bushby at Worship-street on October 19th. As far back as December 23rd, 1893 (FOOD AND SANITATION, p. 396,) we called the attention of the Customs authorities to the swindling going on by the use of the machine they distinguished themselves by "discovering" on Saturday last. We then said:—

"In the light of recent discoveries at Southampton that tea is adulterated with lead, it seems desirable that some attention should once more be given to this article. The Custom's examination, it was believed, had squelched tea adulteration, but such finds as those at Southampton may well cause grave uneasiness, and lead the public to ask if tea adulteration be really a thing of the past. Our inquiries go to prove that tea sophistication is very largely practised, despite the vigilance of those concerned with suppressing it. At least, two great proprietary packet tea firms, to our own knowledge have in use the patent tea restoring machine, which gives to damaged or 'gone off' tea the appearance of first-class new tea. Whether the use of this recent invention explains the discovery of lead in tea at Southampton, or the process of 'faking' is harmless, is a matter that ought to be inquired into, inasmuch as lead is a very dangerous poison, and its presence in so many samples may well cause grave public alarm.

Popular as is 'the cup that cheers, but does not inebriate,' tea-drinking will invariably be shrunk from in horror if its devotees have to risk lead-poisoning in their favourite beverage. Enough sins are alleged against tea without this of lead contamination. For example, Dr. J. Murray Gibbes, of Australia, affirms that tea excites the nerves, and that as women drink more tea than men, consequently their nerves get more excited. Nerve excitement causes a feverish rush for openings and professions for women; these entail mental labour. Increase of mental development in women can only take place at the expense of their physique. 'Therefore,' Dr. Gibbes concludes, 'in two generations or so both men and women will be toothless!'" The abuse of tea, as of other stimulants, carries with it a train of disorders. Doubtless Dr. Gibbes exaggerates, but we shall be curious to see the further results of the Southampton investigations."

On February 10th, 1894, we again referred to the question and on June 30th we felt compelled to comment more strongly on the swindling, saying in FOOD AND SANITATION:—

"Thanks to the wise regulation by which teas are analysed by the Customs Department, tea adulteration has been practically made impossible in England. It is not so, however, in Sydney. According to our go-ahead contemporary, the *Westminster Gazette*, at a recent sitting of the local parliament, one of the members, Mr. Neild, 'drew from his coat-tail pocket a sample of tea, and handed the same to Sir George Dibbs for the edification of the authorities.' Ten days later the Premier assured the Assembly, upon the authority of the Government analyst, that the tea contained 'distinct traces of lead and antimony, to say nothing of wooden chips and shavings, and was, in fact, quite unfit for consumption.'

"The sample, it appears, came from a bulk shipment of nearly 1,000 chests, most of which had found its way into the 'festive teapot' before the Parliamentary exposure. The lead discovered by the analyst has been described by a Sydney merchant as 'colouring matter,' and he says that if you picked out from the tea a piece of stalk you could write your name with it, almost as though you had a blacklead pencil in your hand. It seems that the common plan of colouring on the plantations is to 'involve an infusion of lamp-black into the leaves, or else churn the leaves along with lumps of black lead in a revolving barrel.' A great deal of this mixture is, we learn, landed in Sydney every year. Does any of it ever reach London?

The *Westminster's* inquiry, if any of this reaches London, is answered by the fact that we are protected from such adulterations by the Customs, chemist's examinations of all imported teas. There is, however, a swindle practised with teas which we exposed some time ago, and which is still being carried on by some of the largest of the much-advertised packet tea firms, who use a 'tea-faking' machine. The large refreshment caterers and hotels have a great quantity of exhausted tea leaves. These, on being dried and passed through the 'tea-faking' machine, can be, and are, made to have the appearance of the finest teas, and, when mixed off in moderate proportions with genuine tea, may be sold to the public without any risk of detection. It is only a few months since an offer was made to the Aërated Bread Company, by a gang of persons anxious to further develop and exploit this swindle, to collect the waste leaves at a certain price from the whole of this company's establishments. We understand, however, the offer



was declined. The company would not lend itself to any such practices, and it is a pity that a similar high sense of honour does not afflict some of the largest packet tea firms who have been lately freely indulging in this swindle.

The Customs authorities had therefore specific information of this fraud, and it says little for their public usefulness that so long a period has elapsed without their taking action. Further, there is not a possible shadow of doubt that the firms who bought this swindling exhausted tea did so perfectly well knowing what it was. As we stated on June 30th, there were some of the very largest packet tea firms in the country practising the swindle. Up to the present these have escaped punishment, but if they continue to do so a grave scandal will have been permitted. As the Customs, acting upon our revelations without having the courtesy to acknowledge their indebtedness to us for exposing, as we did, this disgusting fraud, have prosecuted successfully two culprits, the public may well wonder why they stay their hand; such filthy swindles would not be practised if there were not the large tea distributing firms ready to make illicit profits by buying the fraudulent article. The poor inventor, at his wit's end how to make a living, should not have been before Mr. Bushby with his partner only, but the sleek and wealthy dealers who act as "fences" for the swindling *rinsings* of dairy company's cups or the "high-class residuums" of Pearce and Plenty's select tea-drinkers, should have stood by his side. We shall be curious to see if the Customs will let the swindle rest where it is.

## THE EXCESS WATER IN BUTTER GAME.

### MAGISTERIAL ENCOURAGEMENT OF THIS ADULTERATION AT WOOD GREEN.

It may be of interest to the excess water in butter seller to know that to the districts where he can plunder the public with impunity may now be added the portion of Middlesex known as Wood Green. We do not know the names of the Nupkinses who tried the following case, but their decision is so ignorant, so directly inciting to swindling, and so contrary to law, that it should be brought to the notice of the Board of Agriculture and the Local Government Board. It is a crying scandal that persons capable of such fatuous unfitnes to sit on the Bench should be in positions where they can assist in making scientific adulteration even more profitable than it already is.

Somerset House laid it down in evidence before the Select Committee of the House of Commons that 16 per cent. of water was the highest amount allowed in butter. As 15 per cent. would be indeed an outside limit for water in butter—the average being 10 to 12 per cent.—It required no great mental effort on the part of the Wood Green magisterial numbskulls to realise what 20 per cent. of water in butter meant to the consumer. *It meant that the purchaser paid from 3d. to 1d. per lb. for excess water made to stand upright and illegally sold at butter price.* But the Middlesex County Council have not only been defeated in their laudable endeavour to stop this game—they have actually been fined one guinea for striving to enforce the Act against adulteration.

At Wood Green on October 19th, Mr. Sillick was charged with having sold to Mr. A. L. Bridge, Middlesex County Council inspector, butter containing 20 per cent. of water. Mr. Bridge conducted the case for the Middlesex County Council. Mr. Davis, solicitor, appeared for the defendant. Mr. Bridge gave evidence as to purchase and disposal of the parts. Cross-examined: Do you know anything of butter? Yes, I had the first prosecution for water in butter in England.—Do you know anything of the manufacture of butter? A little.—How do you suppose this water came into this sample of butter? In my opinion it has been left there through not being kneaded by the maker of the butter; by doing so he increases the weight of the butter.—Mr. Bevan, county analyst, was asked: What do you take as a reasonable amount of water to be found in butter? 12 per cent.—What do you say this sample contains? 20 per cent.—Would Somerset House pass a butter containing 20 per cent?—Mr. Davis: I object to that question.—Mr. Bridge: It is for the magistrate to decide the point; objection upheld.—What does Dr. Bell, the late Principal of Somerset House, say? Anything over 16 per cent. is unnecessary, and is injurious to its keeping qualities.—What amount of water do you find upon an average in butter? From 10 to 12 per cent.—I suppose it pays to use water rather than margarine? It does.—Cross-examined by Mr. Davis: What amount of water do you find in butter when it comes direct from the churn?

From 30 to 40 per cent., but it is not butter until it has been kneaded, or, in other words, until the water has been expressed. A long argument here ensued upon the question as to whether a box labelled genuine butter protected the seller. The Bench held that it did not.—Mr. Davis then addressed the Bench, and said that his client was innocent of the charge.—Mr. Bridge, in reply to a point of law, asked their Worships to consider whether adulteration with margarine or water was the more profitable, and said he took it 1s. per lb. for water was rather too much for poor people to pay. The Bench, after consultation, dismissed the case.—Mr. Davis applied for costs.—Mr. Bridge objected, and said that both he and the analyst had a grave responsibility, and if the analyst passed such stuff as this he would be unfaithful to his trust, and that if he (Mr. Bridge) had let the matter pass, he too would have been guilty of not faithfully doing his duty, the protection of the public being their sole reason for bringing the matter before the court. The Bench: We allow the defendant one guinea costs.

*Truth* has a pillory for Nupkins. Labby would confer a service upon the public if he would devote some attention to the manner in which the Adulteration Acts are *burked*. It is only a few days since a person, who knew perfectly well that "Le Dansk" was not butter, purchased some of it at the Oxford-street shop, brought an action against the vendor, and secured a conviction under circumstances that notoriously did not warrant one. It was stated that "Le Dansk" was exposed for sale without being labelled margarine, when, as a matter of fact, such was not the case, the article "exposed" being merely empty boxes used for window dressing. We compared some months ago various butters with ordinary margarines, high-class butter substitutes like Le Dansk, and the finest Danish and other butters. The outcome of an exhaustive examination was the following:—

	Water.	Salt.	Fat.
A North of England Co-operative			
Irish butter at 1s. 2d. per lb. ...	18.46	4.15	74.48
A South Co-operative Society's butter,			
1s. 2d. per lb. ...	17.39	3.65	76.24
Le Dansk butter substitute, 11d. per lb.	10.80	1.28	86.54
Danish butter, 1s. 4d. per lb. ...	13.29	1.30	83.98

Now, the butter in the Wood Green case contained 20 per cent. of water. What its salt percentage was did not transpire, but if we examine the salt percentages in the above analyses we find one Irish butter has 4.15 per cent. of salt, another 3.65 per cent. whilst Le Dansk and Danish butter contain but 1.28 per cent. and 1.30 per cent. respectively, Le Dansk being the lower.

Now, salt is not worth the price of butter, nor is water, and whether these heavy percentages be left in designedly for imposing upon the consumer or through ignorance, the fact remains the same, that nearly a fourth of these butters consist of salt and water. If we compare this with a high-class substitute like Le Dansk, we find that Le Dansk sells at 11d. per lb. and contains 12.06 per cent. more fat than one of the butters in question, and 10.30 per cent. more fat than the other, thus giving Le Dansk an increased value; but, further than this, it contains 7.66 per cent. less water than the one, and 6.59 per cent. less water than the other, whilst it has 2.49 per cent. less water than the finest Danish butter analysed. The butter factors have therefore to face the fact that they ask 1s. 2d. per lb. for butters containing but 74.48 per cent. of fat, and 22.61 per cent. of salt and water, whilst more nutritious, equally assimilable, and cleaner butter substitutes, like Le Dansk, containing 12 per cent. more fat, and 12.53 per cent. less salt and water, are sold at 11d. per lb., and that they are superior in flavour, manufacture, and keeping properties to the butters they are so rapidly displacing; that, in plain words, if the butters in question are worth 1s. 2d. per lb., Le Dansk is worth 1s. 5½d. per lb. instead of 11d. These facts ought surely to open the eyes of those who by carelessness and dirty manufacture, excess water, and the like, have well-nigh disgusted the English public with certain butters, to the knowledge of the stern truth that if they are to sell their produce in our markets it must be much improved, and that immediately. It is alleged that finest Danish, Brittany, English, and Irish dairy butters have a decided superiority in the *bouquet*; but in this Le Dansk in many cases is their superior, whilst the average low-priced, adulterated, indigestible, partially decomposed, and rancid article so generally sold at 1s. to 1s. 2d. per lb. as butter is far inferior. The mixture has in addition the added advantage that it contains a smaller proportion of curd, and is therefore less liable to the fermentative action which sets up in butter and terminates in the liberation of the acid that causes rancidity.

For cooking purposes a preparation like Le Dansk must of necessity be manifestly superior to butter, because it contains not only a higher percentage of pure fats giving no rancid odour in melting, but much less water; whilst from the smaller amount of curd in it and the fact that it does not come in contact with the hand in the manufacture, it will keep sweet much longer than any butter will.

But there is another question here arising that demands consideration. Butter may be adulterated, as even the Government analysts admit, with at least 18 per cent. of margarine without the vendor running any risk of punishment. The question may well be asked: Is there any really pure butter? Upon this point the late President of the Society of Public Analysts says:—"In the summer months, when butter is cheap, there is little adulteration; but as the winter comes on it pays to mix it with margarine, which can be bought for sixty shillings the cwt., while good, genuine butter costs from a hundred to a hundred and thirty shillings. In analysing butter for the trade, I found that



in November 55 per cent. of the samples were adulterated, in February 54 per cent., and in March 68 per cent. It all arises out of the mania for cheapness. I have known the butter coming from a continental country to be perfectly pure. Suddenly, in response to demands from the buyers for a reduction in price, one or two men would undersell their competitors by, say, a half-penny a pound. They did this, of course, by mixing the butter with a margarine. The result was that in a few days the whole country-side followed their example, and the English market was inundated with adulterated butter."

The scandal of this is that the butter buyer is defrauded of 2d. to 6d. per lb. which he pays extra for an article that he believes is pure butter, but which in point of fact invariably contains 10 per cent. of margarine, and often as much as 40 or 50 per cent. This is reckoning only the adulteration practised by butter producers, and leaving out of the question that practised by grocers themselves. How extensive this is may be judged from the fact that there are at present over 120 blending machines for adulterating butter with margarine, working within a six mile radius of Holborn. Yet, in the case of "Le Dansk," a substitute whose superiority is thus unquestionably proved, the magistrate imposed a heavy fine; whilst for a prosecution brought against a person selling nearly 12 per cent. extra water and salt at the price of butter the case is dismissed. By all means compel margarine to be sold as margarine, but it is scandalous to penalise an honest article and encourage the sale of 12 per cent. of water and salt made to stand upright at the price of butter.

### THE "LANCET" ON AN ANALYTICAL COURT OF REFERENCE.

WE venture to suggest that public analysts should possess a practical qualification, such as that which the Institute of Chemistry grants; that the chemists at Somerset House should be required to make analyses which they are thoroughly competent to do, but that these results should be submitted to, and the interpretation left with, a court of experts; and finally that some definite rules founded on the results of investigation should be drawn up relating to the composition and assay of drugs.

### BORAX AS AN AID TO THE DIGESTION OF MILK.

GERMAINE SÉE has recently announced the clinical fact that borax used internally is a valuable aid to the digestion of milk. He discards the use of carminatives, charcoal, and other intestinal antiseptics, claiming that they injure the mucous membrane of the intestines. He employs laxatives—hydrastis canadensis, castor oil, and olive oil in large doses, or oil enemata. Prof. Sée holds that in many cases of indigestion the stomach is erroneously treated when the real cause of the disease is the intestines, which are often the seat of membranous enteritis resulting from constipation, and giving rise to glary, mucilaginous, cylindrical masses of mucus, with pain and swelling over the region of the colon. These symptoms easily distinguished the cases referred to from ordinary constipation, in which there may be easily seen masses of filamentous or vermicelli-like mucus.—*Modern Medicine.*

### TUBERCLE-BACILLI IN BUTTER.

THE frequent occurrence of the tubercle-bacillus in milk has naturally led to the question as to its occurrence in milk products, especially butter and cheese. The identification of it in these is somewhat difficult, and few observers have interested themselves in the investigation. In a recent number of the *Correspondenzblatt für Schweizer Aerzte*, O. Roth, of Zürich, reports some tests of commercial butter, and discusses the question at some length. He examined twenty samples, in two of which he found virulent tubercle-bacilli. He refers to an investigation by Brusafiero, who found one sample containing tubercle-bacilli out of a total of nine examined—about the same proportion as that obtained by Roth. Roth finds that boiling cream interferes seriously with the yield of butter, but thinks that it will be feasible to use prolonged heating below the boiling-point. The proper remedy, however, is such control of the dairy as will eliminate all tuberculous cattle.

### SUPPRESSING ADULTERATION IN LAMBETH.

AT Lambeth Police-court on October 16th, Mr. G. W. Marsden, solicitor to the Camberwell Vestry, appeared in support of three summonses against tradesmen for offences under the Sale of Food and Drugs Act. Thomas Hoare, of the Duke of Wellington, Wyndham-road, was summoned by Inspector Kerslake for selling whiskey 35.2 degrees under proof, being 10.2 degrees below the legal standard of 25 degrees.—Mr. W. H. Armstrong, who defended, explained that the defendant only took the premises on August 3rd, and that this whiskey was part of the old stock. He had been a licensed victualler for 18 years and had never had a complaint made against him before.—Mr. Hopkins said it looked like an accident, but said the defendant would have to pay a nominal penalty of 40s. and costs.—Frank Mildon, of Warner-road, summoned by Inspector Kerslake, was fined 10s. and costs for selling milk containing 10 per cent. of added water.—George Coppen, of Claude-road, Peckham, was summoned by Inspector Pounton for selling milk containing 34 per cent. of added water. Mr. Hopkins fined the defendant, who was said to be in but a small way of business, 20s. and costs.

### WHAT A BANKRUPT BOUGHT HORSES FOR.

THE adjourned examination in bankruptcy of Joz Smicht, horse dealer and foreign agent, 93, Waterloo-street, and Greenbank, East Kilbride, was held before Sheriff Spens in Glasgow Sheriff-court on October 19th. On the last occasion when Smicht was before the court the examination was adjourned in order to allow the bankrupt to lodge a statement of affairs. In the course of the examination Smicht said that he started trade by buying horses and shipping them to Belgium. He went with horses to Rotterdam. He sold the horses to butchers in Rotterdam, who made them into beefsteaks and sausages. These were not German sausages, but a kind of saveloys. They could be got here, but they were very dear. He always bought fat horses, never looking at a lean animal. All the horses he purchased were sent direct to Rotterdam and Amsterdam. He had bought horses for other purposes, but not regularly. He had no assets; nothing that he could call his own, and his liabilities were £1,118 3s. 1d. His income at present was almost nil. Sometimes it was £2 or £3 a week. He was living in a cellar just now. The examination was closed.

### THE LAW'S VAGARIES.

THERE are occasions when even those who hold the law in most reverent regard feel disposed to write it down an ass, says the *Globe*. A case decided the other day in the Wigan County-court gives one extremely strong provocation to indulge in the profanity. It was the suit of a milk dealer against a farmer for supplying him with adulterated milk, thereby causing him to be fined and half ruining his business. The evidence entirely supported this statement, proving as it did not only that the milk had been watered before it reached the dealer, but that liquid sewage was contained in the adulterant. The judge found no difficulty in awarding £50 damages to the plaintiff, being the full amount claimed. But the defendant counter-claimed for the same sum for breach of contract, the plaintiff having naturally refused to continue taking a supply from such a contaminated source. As there was a written agreement between them binding the dealer to buy from the farmer all the milk he wanted for a fixed period, the court had reluctantly to admit the counter-claim. The upshot is that a trader who apparently wished to conduct his business honestly practically gets no redress whatever for a very gross injury both to character and pocket. He is made to suffer, too, solely because he broke a contract sooner than make himself a party to poisoning the public with diluted sewage. On the other hand, had he fulfilled the contract, he would have run the risk of being prosecuted again and again. He might, no doubt, have continued to take the milk and poured it down the sink, but here, again, the unfortunate man would have been brought face to face with ruin.

### PHYSICAL ENDURANCE ON THE PIANO.

A novel exhibition of physical endurance and mental musical power is arranged to take place at the Royal Aquarium, commencing at 4 p.m. on Friday next, October 26th.

Herr Berg, a musician of Berlin, has undertaken to play (for a considerable consideration) on a pianoforte for 30 consecutive hours, and is to continue the recitals, in every week, for a period of 13 weeks—the 30 hours to be increased during the first six weeks, to 36 hours. A selection numbering 400 pieces, many of most difficult execution, has been handed in, all of which the Professor has undertaken to play from memory. A part of the contract is that brilliancy of execution shall be maintained throughout the entire recital. The arrangement with Herr Berg is that his fingers shall not leave the notes of the pianoforte for any one moment during the 30 hours' recital.

Herr Henry Berg is a native of Berlin, his age is 33; he commenced pianoforte practice at the early age of 3 years, and he recently successfully accomplished a 24 hours' pianoforte recital at Carlsbad, and has no doubt but that he will succeed in accomplishing the 30 hours' recital at the Royal Aquarium.

### OBITUARY.

DR. W. L. EMMERSON.

WE regret to announce the death, on October 17th, of Dr. W. L. Emmerson, at the age of seventy-two, from an overdose of chloral. Dr. Emmerson was a subscriber to this journal from its commencement, and in the discharge of his duties for many years as public analyst of Leicestershire and Rutland had earned and enjoyed the confidence and esteem of all with whom his duties brought him in contact. He had suffered from sleeplessness, brought on by disease of the kidneys, for which chloral hydrate had been prescribed. Dr. Emmerson took two draughts on Monday evening, and during the night obtained a further quantity, but this proved too much, and resulted in a state of collapse. Death occurred on Wednesday. An inquest was held on Thursday, when the jury returned a verdict of death from misadventure.

**PUBLIC ANALYST FOR MIDLOTHIAN.**—The Joint Committee of the Midlothian County Council have elected Mr. John Hunter, F.I.C., F.C.S., Examiner in Agricultural Chemistry in Edinburgh University, etc., to be public analyst, under the Food and Drugs Act, for the county of Midlothian. Mr. Hunter is also district analyst for the county under the Fertilisers and Feeding Stuffs Act.



## IMPORTANT SPENT GINGER PROSECUTIONS.

### THE HANLEY STIPENDIARY OBJECTS TO "CARELESS AND DISREPUTABLE SOMERSET HOUSE ANALYSES."

At Henley, on October 22nd, before Mr. Harold Wright, stipendiary, William Smith, secretary of the Longton and District Co-operative Society, and Richard Ledward, manager of the society's branch establishment in Wolfe-street, Stoke, were summoned by Mr. Knight, inspector under the Food and Drugs Act, for selling ginger which was not of the nature, substance, and quality of the article demanded. Mr. W. F. Holtom appeared for the defence.—It was stated that a sample of ginger purchased for the inspector from the society's shop at Stoke was submitted to the county analyst, whose certificate stated that it contained 25 per cent. of spent or exhausted ginger, that was to say, ginger which had had its pungent or aromatic properties extracted by a solvent, probably for making the flavouring for ginger beer.—The defendants disputed the accuracy of the analysis showing this result, and Mr. E. T. W. Jones, county analyst, was called to support it. In reply to Mr. Holtom, he detailed his analysis, and described the difference between that and the analysis of genuine ginger. He said that the amount of cold water extract obtainable from ginger varied so much as to be unreliable.—For the defence, Mr. Holtom contended that there was no standard by which pure ginger could be defined; and he called Mr. C. Estcourt, public analyst of the city of Manchester, and of Macclesfield and other boroughs, who gave it as his opinion that the ginger in question was genuine. He analysed the defendants' sample, and found that the cold water extract was 9.52 and the soluble ash 1.8, which were higher than usually found in pure ginger. He thought his was the only reliable mode of testing, and said that the extracts by ether or by alcohol were unreliable.—Mr. Holtom suggested that, as the analysts disagreed, the third sample of the ginger should be sent to Somerset House, for an independent analysis.—The Stipendiary said he should not send to Somerset House again if he could help it. They sent down such a careless and disreputable kind of analysis, which had given him so much trouble previously, that he would rather rely upon the judgment and testimony of the gentlemen who were called before him. In this case he thought that more weight ought to be attached to the evidence of Mr. Jones, who gave the various constituents of the article, with the averages of three or four essentials, than to that of Mr. Estcourt, who only gave two of the constituents, and said they were equal to those found in pure ginger. He found that the ginger in question had been deprived of 25 per cent. of its essential qualities, and imposed one fine of £2, with £3 6s. costs.

At Bristol Police-court, on October 19th, judgment was given in a case in which William J. Finch, grocer, of 122, Stapleton-road, was summoned under the Food and Drugs Act for unlawfully selling through his assistant, Frank Neill, under the Food and Drugs Act, 1875, half a pound of ground ginger which was not of the nature, substance, and quality of the article demanded, on September 19th. Before judgment was given Mr. Doggett, who defended, stated that they considered that as regarded section 6 of the Act they had not committed an offence, though they might have by section 9. The magistrates' clerk (Mr. Braithwaite) said that section 6 was for having adulterated the article; section 9 for having abstracted from it some of its qualities. Personally, he thought there could be a conviction under either section. The chairman remarked that the defendant relied on the 25th section of the Act, and he took it the case could be dismissed if it were proved he bought the article in the same state as sold and with a written warranty. The Bench were of opinion that the article in question was sold in the same state as it was purchased from Messrs. Budgett, and although there was a letter in existence guaranteeing the purity of all ground spices, and although all ground spices were guaranteed pure on the printed price lists, yet that was not a warranty as required by the Food and Drugs Act, for the Act required a special warranty. The Bench thought there had been a breach of the law, and that justice would be met—as this was the

first prosecution in Bristol for selling the article in a state of adulteration—by the defendant paying the costs. They thought the defendant acted in good faith throughout the transaction.

At Uttoxeter, on October 17th, James Dennis, a grocer, residing at Rocester, was charged by Mr. Knight, inspector under the Food and Drugs Act, for selling to his assistant, Samuel Bennison, on August 16th, 2oz. of ginger not of the proper strength or quality. Mr. Knight produced a certificate from the County Analyst showing that 37 per cent. of the ginger had the pungent properties extracted. Defendant said he had purchased it as pure ginger, and produced a letter from the wholesale dealer to that effect. The magistrates said there was no personal reflection upon the defendant, but they had to be guided by the certificate of analysis. He was fined 10s., and 9s. 6d. costs.

At the Barnsley Police court, on October 17th, Henry Hicks, grocer, of Elsecar, was charged with having unlawfully sold, to the prejudices of the purchaser, ground ginger adulterated with "30 per cent. of ground ginger exhausted of its pungent principle." In this case Mr. Bundy stated that he called at the defendant's shop on September 20th, and purchased half a pound of ginger. The analyst's report showed that it contained 70 parts of genuine ground ginger, and 30 parts of ground ginger exhausted of its pungent principle. For the defence, Mr. Reginald Bury pleaded guilty, and urged that although it was a technical offence defendant could not be held responsible for adulteration by the manufacturer. The person the article was purchased from was not the manufacturer. Proceedings would probably be taken against the manufacturer if he could be found.—Mr. Bundy said he was bound to press for a conviction, and defendant could then carry the proceedings further. The Bench ordered defendant to pay the costs.

### EXTRAORDINARY DECISION AT CARLISLE.

At Carlisle, on October 13th, before T. Horrocks, R. S. Ferguson, A. W. Shephard-Walwyn, W. C. Butler, and T. H. B. Graham, James Glendinning, dairymen, Stanwix, was charged with selling new milk which was not of the nature and quality of the substance demanded.—Mr. T. Watson appeared on behalf of the defendant.—Superintendent Graham, as inspector under the Food and Drugs Act, deposed that on August 31st he saw the defendant hawking milk in Scotland-road. Witness purchased some milk from the defendant and divided it into three portions in defendant's presence. Defendant accepted one of the samples, another was sent the same day by post to the county analyst, and the third was retained by witness. The analyst had certified that water to the extent of 10.3 per cent. had been added to the milk. Mr. Watson contended that any evidence as to the "opinion" of the analyst was not competent.—Superintendent Graham said the analyst's certificate was drawn up in accordance with the form prescribed by the Act.—The analysis was then read by the clerk, and showed that the composition of the sample of milk was as follows:—Total solids, 10.98 (fat, 3.28; solids not fat, 7.70); ash, .67; specific gravity, 1.0285. "From consideration of these results," added the analyst, "I am of opinion that water has been added to the milk to the extent of at least 10.3 per cent."—The Bench held that the certificate was good.—The defendant was sworn and deposed that he had six cows, three of which calved in February, and the other three since. On the morning of August 31st he and his sister milked the cows, no one else having anything to do with it. Between the milking and the sale to the superintendent the milk was not tampered with. On two former occasions samples of his milk had been taken by the police, but up to this time no complaint had been made about his milk. His cows were well fed.—Cross-examined: His cows had been getting grass, grains, and cake.—Elizabeth Glendinning, defendant's sister, gave corroborative evidence.—Samples of the milk in bottles were then produced, and Mr. Watson advised the magistrates to be careful how they handled the bottles, as the milk was liable to explode. (Laughter.)—After a consultation, the Bench dismissed the summons.

# CHAMPION'S MUSTARD

MANUFACTURED AND MILLED FROM

## MUSTARD SEED ONLY.

CHAMPION & CO., so far as they are aware, are the only makers of importance who

### DO NOT MAKE AN ADULTERATED MUSTARD.

CHAMPION & Co. confine their attention to selling only Genuine Mustard Flour, milled and manufactured from Mustard Seed. They frequently sell 20,000 tins of such Mustard in a day in London alone.

To make CHAMPION'S Mustard, it is essential to use only the finest Mustard Seeds, inasmuch as chillies or ginger cannot be employed to produce pungency, nor can turmeric be utilised to secure high colour; consequently ripe and perfectly-coloured Mustard Seed only can be used.



## SULPHATE OF COPPER IN PEAS.

Two grocers, named Joseph and Edward Lloyd, carrying on separate businesses in Bridge-street, Chester, were summonsed on October 22nd for selling peas which were adulterated in one case with  $2\frac{1}{2}$  grains per lb. and in the other with  $1\frac{1}{2}$  grains per lb. of sulphate of copper. The peas were foreign, and the defendants pleaded that they were under the impression that the peas were pure, as stated on the label. A fine of 20s. and costs was inflicted in each case.

## THE "TEA-FAKING" FRAUDS.

AT Worship-street, on Saturday, fourteen summonses directed to Nicholas Sherwin White and James D. Cahill, jointly, both of 3, Oliver's-yard, City-road, came before Mr. Bushby, the charges, laid by Mr. Starkey, an officer of the Inquiry Department of the Board of Customs, being that the defendants did, on divers days mentioned, "fabricate and manufacture certain leaves of tea that had been used, in imitation of tea," and with uttering and offering for sale the said goods in imitation of tea. Mr. M'Connell, barrister, appeared for the Board of Customs; and Mr. Moyses, barrister, defended White. Cahill was not represented. Counsel for the Customs said that the proceedings were taken under an Act of Parliament little enforced and perhaps little known—17 Geo. III., cap. 29, section I.—which rendered all persons fabricating or dealing with fabricated tea liable to a penalty of £5 for every pound weight of such stuff. Information had been obtained by the Customs that two persons, named Nicholls and White, were carrying on a business in Oliver's-yard, with Cahill as manager, as tea driers and improvers. It was found that they had a machine, which had been manufactured by Messrs. Ingalls, engineers, of Shoe-lane, to the order of Cahill, who was understood to have invented it, and that the machine was used for what was called "refiring" of tea leaves. It had then been discovered that arrangements had been made by Cahill to purchase from restaurant-keepers the leaves of tea used by them. This refuse had been supplied in large quantities by the British Tea Table Company, "Pearce and Plenty," the Express Dairy Company, the Mecca Café Company, and others, and the prosecution were prepared to prove that that stuff was paid for by White, who had also paid the cost of the machine. The leaves obtained were put through the machine and by a powerful fan blown against a large pipe heated nearly red-hot. By the time they reached the end of the pipe they had curled again, and then they fell, looking like ordinary tea, into a receptacle at the end. The prosecution was prepared to prove that in the months of May and June no less than 6,092lb weight of this fabricated tea had been disposed of by the defendants, and that the defendant White had found the money for starting the business, receiving the money for the sales, whilst Cahill was the inventor of the machine and did the managing work. Counsel added that whilst these proceedings were primarily taken to put a stop to the business in the interests of the public, the Customs had been defrauded of the duty of 4d. a pound, which would have been obtained by the sale of good teas. Mr. Moyses here intimated that he was prepared to plead "Guilty" on behalf of White, who had, he said, acted quite innocently, being unaware that any such Act of Parliament existed or that any offence was being committed. No doubt, in acting as they had done—in "resuscitating or reviving" the tea leaves—they believed they were putting upon the market an article which had a value in its unexhausted properties. Directly the defendants learned that the thing was illegal the business was stopped, though a considerable loss had been incurred over it, and the defendant White had taken steps to promote a syndicate to work it. Mr. Bushby: What, after a loss had been incurred? Mr. Moyses: Well, the loss was in stopping the business. The first information that the defendants had that it was illegal was from an auctioneer, to whom some of the tea had been sent for sale. He thought that, under the circumstances, a nominal penalty would suffice. Mr. Bushby said the case touched so much the interests of the public that he wished to have some evidence given as to the price the stuff was sold at and under what name. Mr. George William Small, trading as Cave, Johnson, and Co., tea merchants, Bishopsgate, was called and deposed to buying in April last 15 chests, about 1,340lb., of tea through the defendant Cahill, who called with a sample. It was bought as damaged tea that had been re-fired, and the price paid was 6½d. per pound. The witness said it was mixed with other teas "of a better brew," and when "blended and packed" sold by him at 9½d. per pound. Mr. Bushby asked what name was given to the article, but the witness did not say. He was then asked what he understood by "damaged" tea, and he replied that it might be by either fire or water.—Mr. Bushby: Not damaged by water in a tea-pot? Witness: No.—By Mr. M'Connell: It was not within his knowledge that ocean-carried tea damaged in transit was never landed but was seized by the Customs.—Mr. Moyses: I suppose there was some virtue in what the defendants sold?—Witness: Oh, yes, it made a very good brew when it was mixed in equal proportions with a better class of liquid-making tea. The prosecution accepted the plea of "Guilty," counsel saying that the loss to the Revenue was about £100. Mr. Bushby said that as the business was stopped he would impose a fine of 20s. on each of the summonses and apportion the costs of the prosecution between the defendants. The order made was that each defendant should pay £14 fine and £20 costs, the full penalty incurred being stated to amount to something over £36,000. White paid the money; the other defendant was given time.

## CORRESPONDENCE.

## SOMERSET HOUSE AND PUBLIC ANALYSTS.

(Continued from page 335.)

The following correspondence has passed between Mr. A. H. Allen, scientist world-wide reputation, author of that standard work "Commercial Organ Analysis," and Mr. R. Bannister, a Somerset House official chemist who gave evidence before the House of Commons Select Committee.

67, Surrey Street, Sheffield,

August 16th, 1894,

Dear Sir,—I beg to acknowledge your letter of August 15th, stating that it is practically impossible to lay down standards for the composition of tincture of rhubarb and malt vinegar, and that you consider the experience of the last six months with reference to the composition of malt vinegar proves how imprudent it has been for analysts to rely on so-called standards. I regret you do not see your way to give me any assistance even in a specific case like that in which I sent you the figures. I am sorry I must decline to give you the information you request respecting the sample of adulterated vinegar which you certified to be genuine. The manufacturers consulted me when their customer was summonsed, and admitted that there was a very large percentage of added acetic acid present. Under the circumstances I declined to assist them in their defence; but they succeeded in having the case referred to Somerset House, and the referees reported it to be genuine malt vinegar, much, of course, to the elation of the manufacturers. You will see that I cannot give you the information which will enable you to identify the vinegar without making known to you the name of the firm who consulted me, and as they sought my advice in confidence, I am bound to preserve their secret.—Yours very truly,

R. Bannister, Esq.,

(Signed) ALFRED H. ALLEN.

Government Laboratory, Somerset House, London, W.C.

Laboratory, Somerset House, London,

August 17th, 1894.

Dear Sir,—I am very much surprised that you decline to give me the information I ask for to identify the sample of vinegar you allege we certified as malt vinegar, when it contained a "very large percentage of added acetic acid," because I have seen the same statement made in a class paper. If, therefore, the information could, without any breach of confidence to your client, be supplied to a newspaper, I think that common justice, as well as professional etiquette, demands that we should be told what sample it was to which you refer, to enable us to clear up the charge you bring against us.—Yours very truly,

Alfred H. Allen, Esq.,

(Signed) R. BANNISTER.

Public Analysts' Laboratory, 67, Surrey-street, Sheffield.

67, Surrey-street, Sheffield,

August 18th, 1894.

Dear Sir,—I am duly in receipt of your letter of yesterday referring to the sample certified by you to be pure malt vinegar, but which I was informed by the manufacturers contained a large percentage of added acetic acid. I am not surprised that you have seen the statement made in a "class-paper," and notice that FOOD AND SANITATION of to-day contains a reference to the matter. I have made no secret of the fact among my brother analysts and the authorities for whom I act, and as the editor of FOOD AND SANITATION is very enterprising, it is not astonishing that the information has reached him; but I did not communicate it, nor have I ever contributed to that journal, except such letters as have appeared over my signature. I think you will see, on reflection, that it is a very different thing to make freely known the fact that you missed the adulteration, and to do as you desire, which is practically to inform you of the name of the manufacturer. Everyone has his own standard of ethics, and I have no desire to dictate to you on such a subject; but it is not in accordance with my idea of professional etiquette to make known the name of a client who consulted me confidentially on a matter respecting which he was well aware he was a transgressor. I may remind you that you have not complied with my request for your opinion respecting certain data obtained by the analysis of a sample of vinegar submitted to me.—Believe me, yours very truly,

R. Bannister, Esq.,

(Signed) ALFRED H. ALLEN.

Government Laboratory, Somerset House, London, W.C.

## CONTRACTS FOR DISINFECTANTS.

## IMPORTANT NOTICE!

To Local Boards of Health, Vestries, and Sanitary Authorities generally.

THE SANITAS COMPANY, LTD., beg to give notice that they have reason to believe there are several unprincipled firms who are offering for sale more or less worthless and fraudulent imitations of the well-known "Sanitas" Disinfectants.

The various "Sanitas" Disinfectants are all manufactured by scientific processes which are protected by Letters Patent, and in order to guard against the nefarious practices above referred to, it is respectfully suggested that all contracts for "Sanitas" Disinfectants and Appliances should be entrusted to the Sanitas Company, Ltd., who are the sole manufacturers, or that a stipulation should be made making it obligatory upon contractors to supply the goods in our original sealed packages.

## THE SANITAS COMPANY, LIMITED

(C. T. KINGZETT, F.I.C., F.C.S., Managing Director)

LETCHFORD'S BUILDINGS, THREE COLT LANE, BETHNAL GREEN, LONDON, E.



Laboratory, Somerset House, London, W.C.,  
August 20th, 1894.

Dear Sir,—I beg to acknowledge the receipt of your letter of the 18th inst., and am certainly very much surprised to learn therefrom that your idea of professional etiquette permits you to put in circulation a statement respecting the analysis of a sample which we are said to report as “pure malt-vinegar,” and when I ask you to supply me with the information necessary to prove the truth or otherwise of the statement, you decline to give it. Happily such a standard of ethics is rare, even in these days of systematic misrepresentation. My letter of August 4th gives you the reason why I declined to give an opinion on the data you submitted to me. There are many points to be considered in the analysis of a sample of vinegar, in addition to the figures you forwarded.—Yours very truly,

Alfred H. Allen, Esq., (Signed) R. BANNISTER.  
Public Analysts' Laboratory, 67, Surrey-street, Sheffield.

67, Surrey-street, Sheffield,  
August 23rd, 1894.

Dear Sir,—I am duly in receipt of your letter of the 20th inst. Every official action of the gentlemen acting as referees under the Sale of Food and Drugs Act is naturally of great interest and importance to public analysts, and fair subject for comment. Hence I feel bound, in the cause of truth and the interests of my brother analysts, to make them acquainted with your failure to report the presence of added acetic acid in the vinegar in question; and the more so in the face of your professed inability to give any indication whatever of the standards or limits you have adopted or would adopt in judging of any similar sample referred to Somerset House. It is so clearly for the public benefit that analysts should know that their reports on similarly adulterated samples are likely to be contradicted on appeal, that I am surprised you should feel any dissatisfaction with my taking any steps to attain so desirable an object. I note your implied doubt of the accuracy of my statement that you reported favourably on a sample sold as malt vinegar which the manufacturers admitted to contain a large percentage of added acetic acid. I regret this, but it is evident that, if my assurance does not carry convictions, nothing short of an application by you to the manufacturer in question would enable you to “prove the truth of the statement.” I have already explained the circumstances under which the information came to me, and can only regret that you should suppose it possible to induce me to commit such a flagrant breach of confidence by making the insinuations contained in your letter.—Yours very truly,

Richard Bannister, Esq., (Signed) ALFRED H. ALLEN.  
Government Laboratory, Somerset House, London, W.C.

Laboratory, Somerset House, London, W.C.,  
August 24th, 1894.

DEAR SIR,—Your letter of the 23rd inst. has come duly to hand; and, in acknowledging it, I must state that I should have been quite content if you had, by inquiry, shown the same anxiety to verify the accuracy of the statement made by your client as you have been in keeping back any information which could lead to the identification of the sample described in one of your letters as genuine malt-vinegar, and in another as pure malt-vinegar, neither of which expressions having, to my knowledge, been used in any of our certificates. This inquiry you have not made, and you make your case worse by giving, as a reason for circulating the report, my “professed inability to give any indication whatever of the standards or limits you have adopted, or would adopt, in judging of any similar sample referred to Somerset House,” when you are quite aware you circulated the tale long before my letter of the 4th inst. was written. I must refer you again to my letters of the 4th and 15th inst. for the reasons I gave for my inability to define a limit in such cases. I have never wished, or asked, you to commit any breach of confidence, but I naturally expected that you would, as an act of simple justice, be prepared to substantiate any charge you might make against this department; but I regret to find that this is not the case.—Yours very truly,

Alfred H. Allen, Esq., (Signed) R. BANNISTER.  
67, Surrey-street, Sheffield.

67, Surrey-street, Sheffield,  
August 28th, 1894.

Dear Sir,—A sample of ground ginger was recently referred to you by the magistrates sitting at Bingley Petty Sessions. In this case you reported the presence of 8·82 per cent. of mineral matter, of which 2·11 per cent. was sand, and stated that this would be excessive if found in high-class ginger which had been washed before being ground, but the results obtained were not greater than were sometimes found in low-priced ginger which had been ground as imported. Will you kindly inform me of the maximum limit of total ash and sand you would permit in a sample of ground ginger of unknown origin and unknown nature, and in the absence of any information whether it was ground before or after being washed? I shall be further obliged if you will inform me whether you took any steps in the case in question, and, if so, what, to ascertain whether, as a fact, the ginger named had or had not been washed before being ground. According to a printed account before me of a case recently heard at Wood Green, in which a sample of milk had been referred to Somerset House for analysis, Mr. Helm and yourself are reported to have

certified to the presence of 82·5 of solids-not-fat, at the same time expressing such an opinion as led the magistrates to dismiss the case. I shall be glad to be informed whether the above report is substantially correct, and, if so, what are the limits you *actually* adopt for fat and solids-not-fat, as it would appear from the report in question that you do not in practice adhere to the statement made by you in evidence before the Select Committee on Food Products Adulteration that your limit for solids-not-fat was 8·5 per cent., and that you had recently raised your former standard of 2·5 of fat to 2·75. The great importance of the practice of Somerset House must be my apology for troubling you in this matter.—Yours very truly,

R. Bannister, Esq., (Signed) ALFRED H. ALLEN.  
Government Laboratory, Somerset House, London, W.C.

67, Surrey-street, Sheffield,  
August 29th, 1894.

Dear Sir,—I find your letter of August 24th awaiting me after a short absence from home. I have already explained that I have it on the authority of the manufacturer himself that there was a large proportion of added acetic acid present in a sample of vinegar referred to you, and the case was dismissed in consequence of the omission from your certificate of any mention of this added acid, which, therefore, I presume your analysis failed to detect. I do not see how I could possibly have further verified “by inquiry” the accuracy of the statement made by my client as to the composition of the vinegar he himself had manufactured; but I may say that I had *previously detected the fact by analysis* of the vinegar, and it was when the manufacturer was informed of this that he admitted the accuracy of my conclusions. I understand from your letter that you distinguish, and wish me to draw a distinction, between “genuine malt vinegar” and “pure malt vinegar,” on the one hand, and “malt vinegar” without either of these descriptive adjectives on the other. If your contention is that the term “malt vinegar” simply is legitimately applicable to an article containing a large proportion of added acetic acid, it appears to me a pity that public analysts should not be made aware that you hold such a very unusual view of the nature of malt-vinegar. But if you will have the goodness to peruse my letters again, I think you cannot fail to see that I used the term “genuine” and “pure” in contradistinction to *adulterated*, and did not imply that either of these words was actually used in your certificate on the vinegar in question. But, in order that there may be no misunderstanding, I repeat that a sample sold as “malt vinegar” was certified by a public analyst to contain a large proportion of acetic acid from another source, which accusation was admitted by the manufacturer to be correct. On reference to Somerset House, you reported in terms which implied that the sample was of unexceptionable character, thereby leading to a dismissal of the summons and a deplorable failure of justice. If you will kindly refer to my letter of August 18th, you will see that I there state that I *had* made no secret among my brother analysts and the authorities for whom I act of your faulty certificate in the above case, and I undoubtedly mentioned the matter at a date considerably prior to the commencement of this correspondence. But now, in the face of your professed inability to give any indication whatever of the standards or limits you have adopted, or would adopt, in judging of any similar sample submitted to you, I feel bound to make my brother analysts in general acquainted with your failure to report the presence of added acetic acid in the vinegar in question. As pointed out in my last, it is clearly for the public benefit that analysts should know that their reports on similarly adulterated samples are likely to be contradicted on appeal. I strongly demur to your statement that I am not prepared to substantiate the charge I have made in this matter against your department. On the contrary, I am quite prepared to repeat on oath the statements contained in this and previous letters to you, and not improbably shall have an opportunity of doing so. In your letter of August 20th, you state that there are many points to be considered in the analysis of a sample of vinegar in addition to the data I gave in my letter of August 14th. Will you please tell me what these points are, and I will, to the best of my ability, give you the further information you require in order to express an opinion on the sample? I fully agree with you that it is desirable to base an opinion on the fullest possible analytical and physical data; but I trust you will pardon my saying that I do not think the information obtained by an Inland Revenue officer as the result of his visit to a vinegar works should form the basis of a certificate given by the Somerset House chemists on a sample of vinegar from the same works submitted to them *for analysis* under the Sale of Food and Drugs Act.—Yours very truly,

R. Bannister, Esq., (Signed) ALFRED H. ALLEN.  
Government Laboratory, Somerset House, London, W.C.

Laboratory, Somerset House, London, W.C.,  
August 30th, 1894.

Dear Sir—I have duly received your letters dated the 28th and 29th inst. As I deny your assertion that a sample of vinegar referred here under the Food and Drugs Act was reported as malt vinegar when it contained added acetic acid, and as you are unable to supply any information which will enable me to identify the sample you refer to, I must decline to continue this correspondence. I will simply add that at the proper time I shall be happy to show the Select Committee on Food Products Adulteration that in the Wood Green milk case, to which you refer, our certificate of analysis



is quite consistent with the evidence I have already given with regard to the composition of milk.—Yours very truly,

Alfred H. Allen, Esq., (Signed) R. BANNISTER.  
Public Analyst's Laboratory, 67, Surrey-street, Sheffield.

67, Surrey-street, Sheffield,  
August 31st, 1894.

Dear Sir,—I am duly in receipt of your letter of yesterday. I am not concerned by your denial and implied disbelief of my statement respecting your erroneous vinegar certificate, as there happens to be a third person whose testimony is available in absolute confirmation of my charge. You will learn more about the matter in due time. I must remind you that there are several points in my previous letters which you have omitted to notice, and for your convenience will re-state them: 1. Will you kindly inform me what information you require in addition to the data given in my letter of August 14th to enable you to express an opinion on the sample of vinegar therein referred to? 2. Will you kindly state the maximum limits of total ash and of sand you would permit in a sample of ginger of unknown origin, and in the absence of any information whether it was ground before or after being washed? Also please inform me whether you took any steps in the case of the sample recently referred to you by the Bingley magistrates to ascertain whether, as a fact, the ginger in question had been washed before being ground. 3. Will you please state what are the limits for fat and solids-not-fat in milk which you adopt in practice? In your evidence before the Select Committee on Food Products Adulteration you stated that you are always ready to communicate to a public analyst who may apply to you your limits or any other information in your power, and I shall accordingly esteem it a favour if you will let me have a reply on the above points at your earliest convenience. Thanking you in anticipation, I am, yours very truly,

R. Bannister, Esq., (Signed) ALFRED H. ALLEN.  
Government Laboratory, Somerset House, London, W.C.

Laboratory, Somerset House, London, W.C.,  
September 1st, 1894.

Dear Sir,—Your letter of the 31st ult. has been duly received, but for the reasons given in my letter of the 30th I must decline further correspondence.—Yours very truly,

Alfred H. Allen, Esq., (Signed) R. BANNISTER.  
67, Surrey-street, Sheffield.

67, Surrey-street, Sheffield,  
September 3rd, 1894.

Dear Sir,—I am duly in receipt of your note of the 1st inst. I regret that your failure to induce me—by aspersions unworthy of you and unmerited by me—to commit a flagrant breach of confidence, is regarded by you as a proper and sufficient reason for refusing to afford me such information as you told the Select Committee on Food Products Adulteration you were ready to give to a public analyst who applied for it.—Yours very truly,

R. Bannister, Esq., (Signed) ALFRED H. ALLEN.  
Government Laboratory, Somerset House, London, W.C.

To the Editors of "The Analyst."

2, Fisher-street, Red Lion-square, London, W.C.,  
September 22nd, 1894.

Dear Sirs,—In Mr. Bevan's letter appearing in this month's copy of *The Analyst* he has unknowingly not stated the exact facts of the case as far as my evidence was concerned. My analysis of the sample in question in duplicate was as follows:—

Total solids	...	...	11.43	...	...	Repeat 11.47
Fat	...	...	2.82	...	...	2.86
Solids-not-fat	...	...	8.61	...	...	8.61

The report issued by my firm was "very poor milk, but no proof of adulteration." I supported our certificate at the hearing of the case, to the extent of stating that the milk "might be adulterated," or that it "might be a naturally very poor sample," and that "if the former, it was probably both skimmed and watered." It may also interest your readers to know that apart from the scientific evidence, proof was forthcoming that the milk had not been tampered with. I must ask you in fairness to myself to publish the above facts, in correction of the mistaken view already put forward.—I am, yours faithfully,

A. J. DE HAILES.

To the Editors of "The Analyst."

4, New Court, Lincoln's Inn, London, W.C.,  
September 27th, 1894.

Dear Sirs,—Will you allow me to point out an error in my letter of August 30th, published in the September number? The total solids should read 11.00, and not 11.10.—I should also like to mention that when Mr. De Hailes analysed the sample it was at least fourteen days old.—Yours faithfully,

EDWARD BEVAN.

## CHEAP PICKLE POISONING.

To the Editor of FOOD AND SANITATION.

SIR,—May I, through the columns of your valuable journal, call attention to the following:—Last Friday week I sent my child for some mustard pickles to a respectable shopkeeper. Unfortunately he (the shopkeeper) had none, consequently the child went and bought them at a chandler's shop. I did not much care for the look of them at the time, but still my wife, myself, and children ate of them. Three hours after we were seized with vomiting and sickness, the children also being purged. We did not at the time know what to put it down to, but after thinking I sent for a pennyworth of the same sort of pickles, keeping them until the morning, when on looking at them I found the stench beyond description, and the mustard (I suppose they called it mustard) of a nasty greenish colour. I did intend taking these pickles to our district sanitary inspector, but thinking it might do the tradesman an injury, I refrained. Now, sir, upon making inquiry, I find that at the present time there is such a cutting price competition going on among the wholesale picklers that the cheap sellers actually use green stuff that is in a state of fermentation, using injurious acids and colours, that it is scarcely to be wondered at that we were nearly poisoned. Surely, if the sanitary inspector would take samples of this dangerous muck and submit it to the analyst, he would soon put a veto on this scandalous trading of cheap and poisonous pickles.—Yours,

F. C.

## THE SELECT COMMITTEE ON ADULTERATION.

CONTINUATION OF MR. BANNISTER'S EVIDENCE.

XVI.

(Continued from page 336.)

WHAT are the same?—The two systems; if you take the time allowance and take our present method of examination; only no doubt our present system is the better system from a chemical point of view because we take the determination of the different substances in the milk and the changes that have taken place, and work them back again into solids not fat, so that it does not depend upon a time allowance. But in this communication, which was referred to by Sir Charles Cameron, from the public analysts to Somerset House, was there not strong exception taken to that system of time allowance, to the system that you had?—I cannot tell all the details that were touched upon in that statement. I think the public analysts pointed out that they had no knowledge what your time allowance was, and consequently they were not able to follow the results which you arrived at?—The time allowance, I think, was stated distinctly in Dr. Bell's book. Can you tell us what is the method that you adopt now since you abandoned this time allowance, as you term it, so that the committee may understand how it is that you proceed in the case of stale samples?—Yes; the two substances that would change by keeping are the sugar and the caseine. The sugar might be converted into lactic acid, in which there is no change in the solids not fat; or a portion of it might be converted into alcohol, a portion of the alcohol might be converted into acetic acid. As regards the curdy matter or caseine, a small quantity of that might be converted into ammonia. We accordingly estimate the amount of ammonia; we estimate the amount of acetic acid or any other acid that may be present; we estimate the amount of alcohol, and then, taking those different estimations, we turn them back again into the amount of solids not fat.—In preparing your certificate when you are called in as a court of appeal, as it were, do you certify whether or not any change has taken place in the nature of the article which might tend to interfere with the analysis?—If we consider that any change has taken place in the composition of the article which interferes with its analysis we should not examine it.—That would come under those samples which you refuse to analyse?—Yes.—Under the Sale of Food and Drugs Act, are you asked for an opinion or to pronounce a judgment on the samples referred to you?—The reference to us under the Sale of Food and Drugs Act is the charge that is made before the magistrate; we have to examine the sample to see whether that charge has been properly made or not.—Do you give a judgment on the charge, as it were, or do you simply express an opinion on the analysis?—We have to certify that in our opinion the analyses give certain results.—I think you are frequently in the habit of using on your certificates these words as regards milk: "We are unable to affirm that water has been added"?—We have not used that form for years.—I presume that the magistrate on seeing those words would rather feel inclined to think that there was disagreement between the public analyst and Somerset House?—That really would be a misunderstanding, because the expression, "unable to affirm," is only that you cannot tell from an examination of the sample whether water has been added or not.—On your certificate do you give such information as will enable a magistrate to know whether the public analyst's certificate and yours are at a variance on a matter of opinion, or on a matter of fact?—On a matter of fact.—I see that you say that your Department have had referred to them since the beginning of the working of the Act 411 samples of milk, and that in 311 of these cases you confirmed the public analyst, and in 96 you disagreed; 311 and 99 cases, total 407; consequently there were four samples of milk in regard to which you neither disagreed with nor confirmed the



analyst?—I think there must be some omission there, or some error. I think there is nothing, either one way or the other, to come to the conclusion that we did not either agree or disagree with the analyst. I think there is some error in the figures.—Now, on the question of poor milks that have been proved to be pure milks, in your opinion, ought everything that passes from the cow to be defined as being pure milk?—It is not a matter of opinion with me; it is the interpretation of the law.—And you interpret the Act in that way?—Exactly.—That it leaves you no option but to declare everything pure to which nothing has been added, and from which nothing has been abstracted?—That is the wording of the Act, and we are bound by that.—Can you point out in the Act where that wording is referred to; I have looked it through carefully, and I cannot quite follow it?—The interpretation is from Section 6: “No person shall sell to the prejudice of the purchaser any article of food or any drug which is not of the nature, substance, and quality of the article demanded by such purchaser, under a penalty not exceeding £20, provided that an offence shall not be deemed to be committed;” and so on.—You adopt a process of analysis different, I think, from that adopted by some analysts?—We do.—And I think you said that when any magistrate has an analysis before him it is necessary that he should consider the method by which the results have been arrived at?—It is desirable that that should be done.—Has he any opportunity of ascertaining this important difference of process?—It is more a matter of opinion than anything else. I have stated the method because I was asked a question about it; but there is no doubt about it that, if we are coming to a small admixture of water, it is necessary that the method of analysis should be known.—But you do not, as a matter of fact, state on your certificates the process which you follow?—No; the process that we follow is one that gives the solids not fat and fat; and the process followed generally by public analysts is the one that gives the fat, and the solids not fat are the difference between the fat and the total solids.—You referred to a paper read by Mr. Hehner before the Society of Public Analysts?—Yes.—I understood you to say in reply to a question which I addressed to you at No. 596, in reference to fats and solids not fat, that Mr. Hehner stated that he made no mention of an increase in the fat?—Yes.—Is that the case?—The paper that Mr. Hehner referred to is one in *The Analyst* of 1892, at page 64, I think.—Your statement was that they diminished the solids not fat from 9.0 to 8.5?—Yes.—But that they still maintained the fats at 2.5?—Yes, at 2.5.—Does not Mr. Hehner state in that very paper that, whilst diminishing the solids not fat, they transfer that half point diminished to solids that are fat?—You have the book before you; will you kindly tell me where that appears.—It is at page 64: “The figures of the few simple experiments recorded above place beyond doubt that apparently slight deviations from the commonly adopted procedure of milk examination lead to widely discrepant results; and in every instance do the modifications in the methods of analysis which I have examined tend to yield a lower amount of solids not fat, and a larger percentage of fat, than does the original (Wanklyn) method.”—The point which I raised was this, that there was no increase by the public analysts in the percentage of fat from 2.5 to 3.0 as suggested.—I understood you to say that there was no increase of fat absolutely suggested?—No; but there is another point to be considered in that paper. The method of analysis that has been spoken to by Mr. Hehner is a different method from the Wanklyn method; it is one where you bring in the Soxhlet Extractor, and that is well known to have a tendency to increase the amount of weight of that substance that is weighed as fat; but there is very little doubt that there is something there besides fat. As regards those methods of analysis that are adopted you use the maceration method?—Yes, we do.—And I think I understand you to say, reading your evidence, that you consider that that is the most suitable method to be adopted?—We say that that is the most reliable method.—But the public analysts do not use it, I understand?—They do not.—They go in for the coil method?—Yes, they go in for the coil method; they use it in reference to samples of milk.—You mentioned that in America Babcock’s method was the chief one used; but that is chiefly the coil method, is it not?—Yes.—Only substituting asbestos for paper?—Yes.—On this question of your construction of the Act, bearing on the point of poor milk being accepted as being pure milk, if a vendor of milk supplied what is termed fore milk (strippings it is sometimes called), which is almost free from cream, would you not consider that the purchaser would be prejudiced in such a case?—I think he would be.—Would not the Act apply then?—I think that is for the magistrate to determine—whether the Act applies or not. Personally, if I were buying that milk I should think I was prejudiced.—Can you tell us whether that opinion has been held in courts of law?—I cannot tell you.—I think there have been cases where a vendor has been selling milk from a churn, where one purchaser has come to buy, who has received practically the cream at the top through carelessness of the vendor, and another purchaser has come, and has received what is practically skim milk; and I believe that the courts have held that the purchaser has been prejudiced in the latter case?—Yes, I should say that the court will settle it in that way.—But still at Somerset House you maintain the opinion that, notwithstanding that the milk is very poor, provided that it comes from the cow it is a legal tender, if I may so use the word—it is saleable as a

pure article?—I think it is scarcely right to say that we hold that opinion at Somerset House. I would rather put it in this way: that the interpretation of the law seems to be in that direction; but so far as we at Somerset House are concerned, the only matter that we have to settle is to examine the sample of milk that comes before us.—I do not wish to put it in that way. You have altered your standard recently, have you not?—We have altered the limit from 2.5 to 2.75.—What was your standard before you altered it?—2.5.—Mr. Kilbride: What is it now?—2.75 per cent. of fat.—And 8.5 of solids not fat?—Yes.—The majority of milks of commerce would not be from single cows, I understand, they would be from herds?—Quite so.—Consequently the possibility of a poor quality of milk existing in dairy milk is reduced very much?—It is.—On the question of standard, was it the fear of condemning a milk that was pure that has induced Somerset House to keep their standard fairly low. I believe it is somewhat low as compared with what is adopted in other countries, and also by the Society of Public Analysts?—No; I think the whole subject depends entirely upon the Act of Parliament. In other countries you will find that the Act of Parliament is different, and therefore they can go on a different line.—Do I rightly understand you to suggest that the Act of Parliament defines the standard?—No, I do not; but the information that was obtained by the Committee on whose Report the Act of Parliament was founded laid it down distinctly that all these little differences that you find in the feeding and keeping of cows, their housing, and different seasons, and all that, had to be taken into consideration.—Then your standard is practically intended to represent a fair average analysis of milks obtained from herds, not from individual cows; because the milk of commerce is admitted, I believe, to be the milk of herds—milk in bulk?—Yes; but the difficulty of interpreting the Act of Parliament in that way arises from this fact, that it applies to England, Scotland, and Ireland; and there is no doubt that so far as the large towns are concerned that is the fact; but there is a large quantity of single cow milk distributed in country places, and, therefore, if we had that definition it would follow as a matter of course that a person in a country place might be convicted when he was selling genuine milk.—As a matter of fact, then, you fixed your border line so as not to exclude single cow milk that might be poor?—But there are a great many single cows that come far below 8.5.—In solids not fat?—Yes.—What about the fats too?—Some of the fats are lower.—Lower than 2.75?—Yes, considerably.—Would you condemn those milks?—No, I should not. If I knew the origin of the milks I should not condemn them; it is simply because we do not know the origin of the milk that we are compelled to put in the limit.—Has the Society of Public Analysts the same standard as Somerset House, within your knowledge?—My opinion, from what I know from public analysts who have consulted us, and from the result of examination, is that the standard of the Society of Public Analysts seems to be 8.5 of solids not fat, and 2.5 of fat.—Not three?—Not three.—I am afraid that the Society of Public Analysts would rather not accept that statement, because, as I understand and am advised, their figures are 8.5 of solids not fat, and 3 per cent. of fat?—I have not seen any authority for the 3 per cent. of fat.—Mr. Kilbride: You have authority for 2.5 per cent.?—Yes; public analysts at starting made their standard 2.5 per cent. of fat.—Mr. Kearley: Do you not think it would be better if Somerset House and the public analysts could come to some common agreement as to the standard on which they could proceed to make analyses?—Really, so far as the public analysts and Somerset House are concerned, the very few variations that there are between Somerset House and the public analysts show conclusively that the method of analysis now pursued is a very good method.—Practically agreeing?—Yes; the public analysts, like ourselves, have got greater experience of natural products, and have used that experience, and methods of analysis have been devised for the purpose of coming to correct conclusions from the samples that are submitted to them.

(To be continued.)

#### AN ORNITHOLOGICAL EXHIBITION.

THE London and Provincial Ornithological Society will hold their ninth annual show at the Royal Aquarium, Westminster, on Tuesday, Wednesday, and Thursday, October 30th, and 31st, and November 1st. It will be the largest yet held by this society, and will absorb the whole of the space in the great hall of the building. Its extent may be judged by the fact that over 1,000 birds will be on view. They comprise both British and foreign birds. There will be many classes of canaries, and light and dark mules, and the varieties include the kingfisher, thrush, black-bird, starling, linnet, nightingale, goldfinch and bullfinch. The foreign classes will include the Java sparrow, parrot, macaw, parakeet, lorikeet, and many other birds of interest. It is safe to predict that the show will satisfy all tastes. £150 is given in money for prizes, and there are valuable cups, etc., offered for specials. The show, for which no extra charge is made, in no way interferes with the Aquarium attractions, and the gigantic programme, which just now is particularly strong, will be carried out in its entirety.



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### NOTICE TO NEWSAGENTS.

Owing to building alterations FOOD AND SANITATION Publishing Offices have been removed to 4, Ave Maria-lane, where newsagents are requested to apply for Copies.

## Food and Sanitation.

SATURDAY, NOVEMBER 3rd, 1894.

### RUINING IRELAND'S BUTTER TRADE.

THE late Master of the Rolls said there were three kinds of liars—liars, damned liars, and expert witnesses. Ireland seems at this moment to be cursed with a double dose of each. At Manchester, in the water in butter cases, truth was so mauled and distorted by a number of persons who posed as "expert butter-makers," and who, poor rigmaroling blatherumskites, may have believed that under the circumstances lies would serve Ireland better than the truth, that they caused an honest and well-meaning but by no means sufficiently principle-stiffened stipendiary to profess that his head was so addled he was not able to understand that the man who would sell water made to stand upright at the price of butter was obtaining an illicit profit at the purchaser's expense. We said our say long ago on this roguery, and we put the issue fairly before the Irish butter dealers.

The English public, we showed, would be the biggest of all big fools were they to pay even 1s. per lb. for Irish butter containing 19, 20, or 22 per cent. of water, when they can buy foreign butters that contain no more than 13 per cent. of water at the same price, or when they can get clean wholesome margarine containing 10 or 11 per cent. of water at 6d. per lb., or butter substitutes, like Le Dansk, equal in flavour to the finest creamery butters, and containing no more than 10 per cent. of water, at 11d. per lb. We have done more than all the newspapers in England, or all the rakers in our parliamentary rubbish heap put together to give Irish and English produce a fair footing in our markets. We would like to see no sale in England for even one ounce of Danish, Brittany, Italian, German, or even our colonial produce, but our likings stand scant chance of being realised when decisions like that we report in another column are given in Ireland. The measure of honesty we demand from the Dane or the Hamburg butter rogue we must demand from the Irish butter dealer, and this excess water in butter game is slowly but surely cutting the throat

of the Irish butter trade—a reflection that is saddening enough for all able to realise the manifold miseries of the land where unhappily every one seems eager to hasten on

"A nation's decay

Like the base of a pyramid crumbling away."

Those who utter rubbish about 20 and 30 per cent. of water not being adulteration are doing their utmost to kill the Irish butter trade, and the judges who accept such trash as reliable evidence stand in just as much need of the excess water being kneaded out of the gruel they call their brains as does the butter they sit in judgment on. But if judges and butter dealers alike are satisfied to see Ireland's remaining industry destroyed they are entitled, we suppose, to do what they please with their own. Well, they are doing it, and for muddle-headed, blind, reckless rushing to ruin their conduct has no parallel in any other trade at this time. It may encourage them to know that they gladden the hearts of Frenchmen, Germans, Italians, and all others of their foreign trade enemies, and that to no one has this "expert witnessing" given greater gratification than to Mr. Harald Faber, a gentleman employed by the Danish Government to push the sale of Danish butter in these isles. Irish newspapers who ought to have sense enough to speak timely words on this question are, as usual, too busy girding at one another about rubbish heaps to proclaim anything useful for their country's one remaining big industry.

### ADULTERATED LARD AND MUSTARD AT PONTYPRIDD.

AT Pontypridd Police-court on October 24th, W. Thomas, grocer, Miskin Village, was charged with selling adulterated lard. Defendant was ordered to pay the costs (30s.).—John Llewellyn, grocer, Gilfach Goch, was then proceeded against on a similar charge, and was fined 10s. and costs (32s. 6d.).—Mrs. Sarah Morgan, grocer, Pontygwaith, was the next defendant. The Bench thought that, as this case was not so bad as the others, they would simply ask the defendant to pay £1 towards the costs, which amounted to 31s. 6d.—Evan Edmunds, grocer, Tanybryn, Gilfach Goch, was charged with selling mustard containing 9 per cent. of flour, but the Bench agreed that the case would be met if the costs (27s.) were paid, seeing that cases containing 20 per cent. had been dismissed.

### THE PERCENTAGE OF ALCOHOL IN TEMPERANCE DRINKS.

RECENT prosecutions have directed attention to this question, and in reply to some comments in the *Church of England Temperance Chronicle* Kops have written the following to that journal:—

"Our attention has been called to a paragraph appearing in your journal of September 22nd last, in which it is reported that two specimens of Kops' ale have been analysed and that one of them contained 2.20 per cent. of proof spirit and the other 1.32 per cent. of proof spirit, and you add the remark that 'the older sample has about half as much alcohol as ordinary ale or beer.'"

"We enclose you a copy of the analysis of two bottles of Kops' ale brewed and bottled by us—one in September, 1893, and the other in September, 1894—from which you will see that the quantity of proof spirit found therein was 1.05 per cent., and we affirm that none of the ales brewed by us contain more than this percentage, and that if kept for a year the percentage will not increase.

"You ought to be aware that 1.05 per cent. of proof spirit is equal to about  $\frac{1}{2}$  per cent. of alcohol, so that your comment alluded to above is not only most incorrect, but, if uncontradicted, is calculated to do us serious harm—a result which we feel sure you would not desire.

"In this connection we should like to call your attention to the report of a case in the *Liverpool Mercury* of September 24th, 1894. A shopkeeper was summoned by the Inland Revenue authorities for selling excisable beer without a licence. The beer in question was a hop ale, but not of our manufacture. It was pointed out by the solicitor for the Inland Revenue that the limit of alcohol allowed by law in temperance beverages was 2 per cent., and he referred to the fact that Kops' ale when analysed showed less than 1 per cent.

"Most foods contain more or less alcohol, but we maintain that our ale is a real temperance beverage, and absolutely non-intoxicating, and that the percentage of alcohol in it is inappreciable to the consumer.

"We trust to your fairness to insert this letter in your next issue.—We are, sir, your obedient servants,

"KOPS' BREWERY (F. E. G.).

"[COPY]

"Chemical Laboratory, 15, Victoria-street, Westminster,

"September 25th, 1894.

"Certificate of Analysis.

"Two samples of Kops' ale, marked 'Kops' Ale,' sealed by capsule, from Kops' Brewery, Fulham. The above samples showed, on analysis—Proof spirit (per cent.), 1.05 large bottle, 1.05 small bottle.

"(Signed) FRANK L. TEED."



### PROSECUTION OF A WARRANTY-GIVER.

MR. HENRY FRY, farmer, of Dunmow, was before Mr. Lane, at North London Police-court, on October 19th, summoned for sending milk to London to which a false warranty was attached. Mr. John Ogle defended. The case arose out of a summons which was previously before the Court, and in which Messrs. Stapleton, dairymen, of Stoke Newington, were summoned for selling milk containing 8 per cent of added water. This summons was dismissed on the Messrs. Stapleton calling evidence to prove that they had not tampered with the milk, and that they were, consequently, protected by a warranty which came with the churns. An agreement between Messrs. Stapleton and Fry (dated June, 1890) was handed in as the stipulation that Mr. Fry was to send pure milk to Messrs. Stapleton; and, in addition to this, the warranty ticket attached to the churn was also put in. Mr. A. L. Bridge, the inspector under the Food and Drug Act in the employ of the London County Council, submitted the foregoing as Mr. Fry's warranty, and then produced the certificate of Mr. Edward Bevan, analyst to the Middlesex County Council, as proof that the sample of milk taken from Stapleton's man, and sworn as being taken from Fry's churn, which stated, "I am of opinion that the sample contains 8 per cent of added water." The inspector had not the necessary witnesses in Court to legally prove his case, and Mr. Lane said the case would have to be adjourned. Mr. Ogle objected to the adjournment. His client and witnesses had been brought all the way from Dunmow to answer a charge, to which, by-the-way, they had a complete answer.—Mr. Lane: The County Council ought to have been legally represented in such an important case, and I shall dismiss it if Mr. Fry objects to the adjournment, but shall not allow costs.

### CHEESE.

#### THE MOST INDIGESTIBLE THING A MAN CAN PUT IN HIS STOMACH.

DR. VON KLENSE, a well-known German physician, has recently made a series of very careful experiments for the purpose of determining the degree of digestibility of cheese, which is so largely used with the idea that it is an aid to digestion. Dr. Klenze studied the digestibility of a large number of different kinds of cheese, employing an artificial digestive fluid which contained, however, a quantity of fresh gastric juice.

The conditions supplied were as favourable as possible for rapid and complete digestion. Here are some of the results: Length of time required for the digestion of Emmenthaler, Gorgonzola, and Neufchatel was eight hours, Romadour required nine hours, and Kottenberger, Brie, Swiss, and all but two of the eleven remaining varieties required ten hours for digestion. When it is remembered that the stomach digestion of an ordinary meal is usually completed in four or five hours, and in a vigorous stomach in even less time, it is apparent that cheese is a great hindrance to digestion rather than an aid to it, and that there is not even the semblance of a foundation for the old dictum:—

"Cheese is a mighty elf

Digesting all things but itself."

That cheese is indigestible is not to be wondered at. Microscopical and bacteriological studies of cheese show that it swarms with microbes of various sorts, and, as is now well known, the flavours characteristic of the different varieties of cheese are wholly due to the products of microbic action; the older the cheese the more numerous the microbes, hence the great probability that its presence in the stomach will set up fermentative or putrefactive changes in the food substances which have been eaten.

Prof. Vaughan's researches have shown that cheese always contains a larger or smaller amount of tyrotoxin, and doubtless also the microbes by which this powerfully toxic agent is produced.

Cheese must certainly be regarded as a questionable article of diet. It should be mentioned, however, for the benefit of those who will insist upon retaining it in their dietary, that its most noxious properties may be neutralised by cooking.—*The Hotel.*

### STILTON CHEESE PROSECUTION.

At the South-Western Police-court, on October 14th, George Crate, a costermonger, of 26, Atherton-street, Battersea, was summoned, at the instance of the Vestry of St. Mary, Battersea, for exposing for sale 54 pounds of cheese unfit for human food. Mr. W. W. Young supported the summons. Mr. Isaac Young, the chief sanitary inspector, said the defendant stood with his barrow in York-road on the 20th ult. Witness had his attention drawn to the cheese by a strong smell in the vicinity of the barrow. Mr. Denman: The price rises when the cheese is high. Mr. Young mentioned that the article was offered to the public at 2½ per lb., and when sold at that rate there must have been something radically wrong with it. Mr. Isaac Young, in answer to questions, said there were no maggots, but the cheese was soft and had a yellowish-red colour. Professor Lethely in his lectures had expressed the opinion that this was a sign of decomposition. Mr. Denman pointed out that Stilton when ripe always had a discolouration. The magistrate was reminded that the goods were condemned by Mr. Rose, before whom they were brought. Mr. Denman understood that the magistrate thought the condemnation of the cheese would be a sufficient punishment. Mr. Young said the vestry issued the summons as a caution to others. He would be satisfied

with the payment of the costs. Mr. Denman allowed this course to be adopted, and the summons was disposed of on payment of 2s., the costs.

### A "PATENT FOOD" ANALYSIS.

PASKOLA, the largely advertised "predigested food," is meeting with reverses in Ohio. Four principal druggists in Cincinnati were arrested for selling it (and other proprietary articles), because upon the reports of its chemist the State Dairy and Food Commission decided it was a violation of the law, in that it was not what it claimed to be—was, in short, an adulterated article. The chemist's report was that Paskola is merely a cheap syrup, of commercial glucose, containing a little acid (hydrochloric and sulphurous), substantiating other analyses which had been published. The Dairy and Food Commission's action amounts to a virtual ruling that such concoctions are masquerading under false pretenses.—*Pharm. Era.*

### ENFORCING THE ACTS IN IRELAND.

At Athlone, Mathew Tully was summoned by Sergeant King for selling new milk adulterated to the extent of 18 per cent. in accordance with the certificate of Sir Charles Cameron. The defendant was fined in 8s. and costs.

Andrew Carberry was summoned by the same complainant for a like offence. The fats extracted in this case amounted to 29 per cent. A fine of 10s. and costs was imposed.

### A POOR SUBSTITUTE FOR TEA OR COFFEE.

At the Bradford Borough Court, on October 24th, proceedings were taken by the Board of Inland Revenue against a person named John Worsnop, residing in Harris-street, Bradford, for selling an imitation of coffee without the packet containing it having upon it an Inland Revenue stamp.—Mr. George Mordy, collector, Inland Revenue office, Manor-row, stated that on August 13th the defendant was found to be disposing of a preparation which he styled "Fruitonic," to be used as a substitute for tea or coffee, and which in appearance was an imitation of coffee. The article was made up into tin packets, but without the halfpenny stamp which should appear upon such imitations. The present proceedings were taken under Section 6 of the Adulteration of Foods Act. He should call a professional analyst, who would state what the preparation was composed of.—Mr. W. Harkness, analyst from the Government Laboratory, Somerset House, produced a tin containing the preparation, with a label containing the words, "One ounce of Fruitonic contains more nutriment than four ounces of coffee or three ounces of tea." The preparation consisted of bran and roasted sugar, and was of no value whatever as food.—In reply to the Bench, Mr. Mordy stated that the proceedings were taken in order to acquaint the public with the fraud which was being practised upon them. The absence of the stamp constituted the technical offence.—The defendant stated that he never knew that a stamp was required.—The tins were sold at 6d. and 1s. each. The tin produced was a sixpenny tin.—Mr. Skidmore, addressing the analyst, asked what would be the cost of making.—Mr. Harkness: Oh, about a halfpenny.—The defendant, continuing, said he was the wholesale maker of it, but he had not floated the thing yet. He had been a photographer, but his sight having failed, he had taken up the manufacture of the preparation.—Mr. Mordy said the Department did not press for a heavy penalty.—The defendant was fined 40s., with the alternative of 14 days' imprisonment.

### DISEASED MEAT AT WEST HAM.

LEO HONEKER, a butcher, of 57, Rathbone-street, Canning Town, was summoned on October 24th before Mr. Baggallay, on the information of Dr. C. Sanders, the medical officer of health for West Ham, for exposing meat for sale which was unwholesome and unfit for the food of man.—Mr. James prosecuted for the Corporation of West Ham; Mr. F. George defended.—Allan Bagshaw, a sanitary inspector, said that on September 15th he visited the defendant's shop and saw a piece of bad meat outside. He went in and then saw 16 pieces of meat and eight pieces of mutton which he thought was also unfit for food. He told the defendant he would report the matter to the medical officer, and the meat was taken to Dr. Sanders the same night. A fortnight before witness had spoken to the defendant and caused him to destroy about 6lb. of meat.—By Mr. George: Defendant did not say he intended to throw the meat into the waste barrel. They were on a dish on the counter, except the one piece that was on a board outside the shop. The weather at the time was dull, but not what witness would call murky. Defendant offered to destroy the meat, but it was seized.—Dr. C. Sanders deposed to examining the meat, which was unwholesome. On the Monday it was condemned by order of the Court.—By Mr. George: Some of the pieces of meat were worse than others, but none of them were fit for food.—Mr. George said the defendant bought the meat on Thursday, and these particular pieces had been cut off and were intended to be put into the waste barrel. They were put aside for that purpose. He was but a small trader, and if the magistrate thought he must impose a penalty he hoped he would be lenient with the defendant.—Mr. Baggallay: £3 and costs.



### THE MARGARINE ACT.

AT Worship-street on October 28th, Jenkin Parry, provision dealer, of 45, Cambridge-road, Bethnal-green, pleaded guilty to selling as butter an article which was 90 per cent. of foreign fat. Mr. Bushby imposed a fine of £18 and costs, the fine going, under the Adulteration Act, to the vestry of Bethnal-green.

### ADULTERATION OF LARD OIL.

FOR some time past complaints have reached us from various points as to the increasing adulteration of lard oil. It has long been known that what is called "off grade" oil has been largely mixed with the cotton-seed product, especially among the inferior qualities of said grade.

It is now alleged, however, that some Western oil of said quality has been found to be adulterated with a mineral substance, suspected to be aluminum pulp, and the subject is now under investigation in New York and Boston.—*National Provisioner*.

### LINDSAY COUNTY COUNCIL AND ADULTERATION.

THE public analyst (Dr. Muter) reported that during the quarter ending September 30th, he had examined 44 samples, three of which were not genuine. In one case of adulteration of coffee the defaulting person was prosecuted, and fined 9s. 6d., including costs. In a case of adulteration of whiskey no prosecution was instituted, and in another case of adulterated coffee the person was summoned, but the case had not yet been decided.

Inspector Bailey, of Caistor, and Inspector Burton, of Market Rasen, were appointed as inspectors under the Sale of Food and Drugs Act, 1875.

### THEY MANAGE THESE THINGS BETTER IN FRANCE.

ENERGETIC measures are being taken in Paris, says the *Morning Post*, to put a stop to the colouring of lobsters and crayfish which goes on at the great central markets. Pots of red paint have been seized, and the vendors of the too-brilliant looking shell-fish have been prosecuted in the police-court for fraud by adulteration. The object of colouring the lobsters is of course to give them an appearance of freshness after they have been in stock for some time. An amusing scene was witnessed in the police-court when a whole crowd of voluble and excited fishwives were arraigned. Some of them declared that even experts cannot tell whether or not lobsters are fresh. One of them went so far as to affirm solemnly that certain customers prefer their shell-fish "high," which gave the magistrate an opportunity for a little joke to the effect that only "faisans" (pheasants) are good "faisandés" (high). The women were sentenced to six days' imprisonment each and a fine of 50 francs.

### THE "CITY PRESS" ON ADULTERATION.

IT is clear that the adulteration laws are in urgent need of amendment. Some time ago I commented on the refinement of judicial construction which declared baking powder not to be an article of food, whereby its adulteration was made lawful. Taking advantage of this decision, magistrates have since then ruled other articles outside the operation of the Sale of Food and Drugs Act. Thus, ground ginger, and now, according to the latest reported case, yeast have been added to the list of privileged commodities. At this rate pepper, mustard, and many other things hitherto regarded as unquestionably articles of food, at least for the purposes of these Acts, will be lawful play for the adulterator. It really is monstrous that enactments so necessary in the interest of the public health should, by this whittling-down process, be rendered useless. If the courts are unable to take a broad and common-sense view of the law, the definition of food must be so altered as to put it out of the region of doubt that all these articles of everyday consumption shall be within the scope of the statutory prohibition.

### 81 PER CENT. CHICORY IN COFFEE AT BURTON.

JOHN OSBORNE, grocer, Wellington-street, Burton-on-Trent, was charged with having sold adulterated coffee. Mr. G. A. Capes defended. William Grassam said Henry Toy handed to him the coffee he had bought from Mrs. Osborne, and he (witness) informed defendant's wife it had been bought for the purpose of analysis. He asked Mrs. Osborne whether she had bought it as pure coffee, and she replied that it was a mixture—there was chicory in it, and pure coffee could not be obtained for 5d. per quarter pound.—Mr. Van Tromp deposed to receiving two samples of coffee from the witness Grassam. He subsequently forwarded one of them to the public analyst, whose certificate stated that it contained 81 per cent. of chicory.—For the defence, Mr. Capes submitted that his client had acted in perfect good faith in selling the article as coffee, as he had bought it at coffee price from a grocer in the town in the same condition in which he sold it again. Defendant bore an excellent character, and had no desire to defraud the public, and he asked the Bench to look upon him as the victim of misfortune and impose only a slight penalty.—The Bench took a serious view of the case, and fined defendant £3 and costs £1 12s.

### ADULTERATION IN HERTFORD.

THE report of the county analyst (Mr. A. E. Ekins, of St. Albans) for the quarter ending September 30th last, says:—"During the quarter ended on September 30th, 1894, forty samples of food, etc., were submitted to me by your inspectors appointed under the Acts. They consisted of twenty-one samples of milk, sixteen of butter, one each of coffee, bread, and ground ginger. Five of the milks were adulterated, three by the addition of 25, 24, and 15 per cent. of water respectively, and two were deficient in fat. In the cases of the adulteration by water, two of the vendors have been fined £5 each, and the summons against the third has not yet been heard. In the cases in which the milk was deficient in fat I believe the vendors were cautioned and proceedings not taken this time. With regard to the butter, I am pleased to be able to report a great improvement in the quality of butters now sold in the county. It is the hope of all public analysts that the Select Committee on Adulteration that has been sitting at the House of Commons may, as the result of their report, lead to a more satisfactory definition of adulteration, and have Somerset House standards brought more in accordance with results obtained by analysts who have given many years to study and experiments in the various forms of adulteration now adopted.

### EXCESS WATER IN IRISH BUTTER.

AT Rathkeale Quarter Sessions on October 25th, before his Honour Judge Adams, an important appeal case affecting the butter trade was heard. Mr. John Smith, merchant, Adare, appealed from the decision of the magistrates at Adare Petty Sessions (Major Rolleston, R.M., and Mr. W. Barry, J.P.) fining him 10s. for selling butter containing 19 per cent. of water. Mr. J. Blackall, solicitor, appeared for the appellant, and Mr. William Leahy, S.C.S., appeared in support of the magistrates' decision. Mr. Blackall said he appeared on behalf of Mr. Smith, a large and respectable trader, carrying on an extensive business both in Adare and Limerick, who appealed from a decision of the magistrates at Adare Petty Sessions, by which he was fined 10s. for selling butter containing, according to the certificate of Sir Charles Cameron, 19 per cent. of water. His client purchased the butter from a Mrs. Dempsey, a most respectable woman living at Ballinvira, near Adare, and who held a high reputation of being a first-class maker of butter, in fact, obtained on several occasions a first-class award for her butter. Mr. Smith had a sample of the butter examined by Mr. Gibson, a gentleman whose reputation as an expert in the manufacture of butter was widely known. In the recent Manchester prosecutions the standard was higher than the present.—Mr. R. Gibson was then examined, and in reply to Mr. Blackall, stated that he was examined at the Manchester prosecutions in reference to the amount of water allowed in the manufacture of butter. Mr. Smith brought him a sample of the butter, which he analysed. He was perfectly certain there was no undue amount of water in the sample. No water could be added except it was done deliberately. The very best and most carefully handled butter contained 22 per cent. of water.—To His Honour: I am certain there was no adulteration. Some of the best butter contains 22 per cent. of water.—His Honour: Every substance contains water.—Mr. Gibson: The bone of a mutton chop contains 32 per cent. of water.—His Honour: You do not agree with Sir Charles Cameron as to making 16 per cent. the standard?—Mr. Gibson: I differ very strongly from Sir C. Cameron.—Sir David Harrel said that after hearing the evidence at the Manchester butter prosecution he would not recommend the Government to fix a standard.—His Honour: Do you say butter made in the ordinary way contains more than 19 per cent. of moisture?—Mr. Gibson: As an instance I may tell your honour that the manufacture of butter is my life-long study. I churned with the newest and best appliances, and got 32 per cent. of water.—His Honour said it was a well known fact that all substances contained water and other matter. Sir Charles Cameron found that there was 19 per cent. of water in that particular sample. His experience of analysts was that they were the last class of witnesses to believe. He remembered the last case he was engaged in when at the Bar, the Maypole Dairy case. Sir Charles Cameron swore one thing was black, and Professor Tichborne swore it was white. This particular case was a very important one for the farmers of Limerick as to the legal standard. After hearing the evidence of Mr. Gibson, who seemed to have a thorough knowledge of the manufacture of butter, it left no doubt in his mind that this sample of butter was not adulterated. He would reverse the decision of the Court below, and give 40s. costs to the appellant.

At the Mitchelstown Petty Sessions on October 27th, Sergeant Martin O'Connor summoned Mr. John McCarthy, farmer, of Knoekagany, for having sold to him in Mitchelstown Butter Market a quantity of butter which was not of the nature, substance, or quality demanded.—Sergeant O'Connor stated that the butter contained 22.90 per cent. of water.—The defendant said his land was of a very rich kind, and in that class of land it was a matter of much greater difficulty to abstract water from butter made on it than it was to take the water out of butter made on poorer soil.—Defendant was fined £1, and 13s. 2d. expenses connected with the prosecution.



### WHITE WAX ADULTERATION.

At the Wolverhampton Police-court on October 19th, Charles Frederick Lloyd, trading as a chemist at 70, Darlington-street, was charged at the instance of Mr. G. F. Allwood, inspector of food and drugs for the borough, with selling a certain drug, to wit, white wax, which was mainly paraffin, and not of the substance and quality asked for by the purchaser. Mr. Allwood stated that the charge was taken under section 6 of the 1875 Act. On July 23rd an assistant, named John Allen, in the weights and measures office, called at the shop of defendant and asked to be supplied with a quarter of a pound of white wax, for which 3d. was charged. The inspector afterwards went to the shop and divided the article in the usual way, and a sample was submitted for analysis. On September 5th a certificate was received stating that the wax was not according to the British Pharmacopœia, but was mainly paraffin, of which 90 per cent. was found. Similar charges were also laid against Henry Hudson, described as a chemist, of 1, North-road, and Phillip George Godsell, chemist and druggist, Chapel Ash. Mr. T. G. Greensill represented Mr. Godsell. On July 23rd a quarter of a pound of wax was purchased from Mr. Hudson, for which 10d. was paid, and on analysis it was found to contain 75 per cent. of paraffin. It was on July 20th that sixpennyworth of wax was purchased from Mr. Godsell, and the analytical return for this was that it contained 95 per cent. of paraffin. Mr. Greensill remarked that they could not deny the analyst's returns; but they sold the article as received from the wholesale chemists. He understood that it was an American production, made in Boston, and described as mentioned in the British Pharmacopœia. Mr. Godsell bought his business from a Mr. Coleman, and he sold the stock then purchased. He believed this was the first time wax had ever been taken, and it was a hard case. Mr. Lloyd said that they bought the article in good faith, and sold it in like manner, but Mr. Neville said that if wax was ordered that must be sold, and each of the three defendants was fined 20s. and costs.

### THE LAW IN SCOTLAND PROTECTS ADULTERATION.

At the Justiciary Appeal Court on October 22nd, Mr. Peter Fyfe, inspector of nuisances in the city of Glasgow, appealed against the decision of Sheriff Birnie in Glasgow Sheriff Summary Court in a complaint against James Hamilton, milk dealer, 97 Bernard-street, Glasgow. Hamilton was charged under the Foods and Drugs Act, 1875, section 6, that on two occasions he sold one pennyworth of sweet milk which had 15 per cent. deficiency of fat. At the trial the analysis of the city of Glasgow analysts showed 15 per cent. deficiency of fat, and the analysis of the Somerset House officials showed 26 per cent. There was no evidence by the accused as to whether the milk was as it had been obtained from the cow, and Sheriff Birnie found it not proved that the milk was not of the substance and quality of sweet milk, and he granted absolvitor to the accused. The principal question in law was whether, having in view the public analyst's certificate, declared by section 21 of the Act to be *prima facie* evidence of the facts therein stated, to the effect that a sample was deficient in fat to the extent of 15 per cent., and the certificate from Somerset House obtained under section 22, to the effect that it was deficient to the extent of 26 per cent., and no counter analysis having been produced, or evidence led by the respondent dealing specially with the quality of this sample, or to show that it was as drawn from the cows, the Sheriff-Substitute was bound to convict. The Lord Justice Clerk said the supposition was that beyond the certificate of the analyst there was no further evidence required. His lordship saw nothing in the statute to put the case out of the ordinary category of cases, and that there must be evidence led to prove the offence. Whether the analyst demonstrated that the milk had been tampered with was a question of fact which could only be established on evidence. Now, the Sheriff heard the evidence, and after hearing it the conclusion he came to was that it had not been made out to his satisfaction that there had either been an addition of water to the milk, or that the fatty matter had been removed, with the result of leaving too little fatty matter. Having come to that conclusion

upon the evidence, the Sheriff arrived at his decision, and there was nothing for the Appeal Court to interfere with, as the question was purely one of fact, and not of law. Lord Young said the case was properly and regularly tried on a matter of fact. The Court refused the appeal, with seven guineas of expenses.

### THE ART OF ADULTERATION DEFENCES.

ALONG with the greater efforts made to suppress adulteration there is a steadily increasing knowledge of the Acts amongst solicitors; and aptness to seize points hitherto little known or utilised to secure dismissal of prosecutions. A case on October 27th at Reading is instructive as showing the class of defences now set up much more frequently than was the case a couple of years ago. Samuel C. Gascoine, of Turnham Farm, Tilehurst, was summoned for milk adulteration.—Mr. S. Brain appeared for the defendant and pleaded not guilty.—Mr. Robertson said that he visited Gascoine's on September 26th and purchased some new milk from Smith's shop. Dr. Ashby gave a certificate that it had been adulterated  $6\frac{1}{2}$  per cent. with water.—Cross-examined: He did not notice whether the milk was steaming.—Dr. Ashby also gave evidence.—Mr. Brain, in addressing the Bench, drew attention to the fact that the milk was sold as supplied, without adulteration. The matter was a difficult one to decide, from the fact that the quality of milk from various cows differed very much according to the age of the cows, the quality of the pasture, the time when the cows were calved, and the temperature of the cowsheds. It was thus difficult to arrive at a standard applicable to every case. Dr. Ashby had given certain views as his opinion, but the Bench were not bound by that, as it might be rebutted by other evidence. Nothing had been added to the milk in question, and he asked the Bench, on those grounds, to say that a *prima facie* case had been rebutted. Nothing had been said inconsistent with the purity of the milk. Mr. Brain then quoted from Bell's book on the subject, which showed that there were two points of privilege as to deductions from analytical results, one being in regard to the results arising from the difference in analysis. The quality varied, ranging from 2.2 per cent. of fat, and rising as great as 6.2 per cent. The difference was accounted for sometimes by mixed milk. The milk of 273 cows, non-fatty solids (the book stated) varied from 7.52 to 10.4, and fatty solids from 2.43 to 5.97. The non-fatty solids from Somerset House investigators stated 7.52 to be the lowest, and Dr. Ashby's figures were 7.93. The lowest from fatty solids, registered at Somerset House, was 2.43, the highest 5.97; Dr. Ashby's was 3.25. As regarded mixed milk, the Somerset House register from non-fatty solids was 8.40 to 9.70, and fatty solids from 2.89 to 5.61. Mr. Brain then called the defendant, and two of his employees to prove that the milk he sold was not adulterated, and came from 20 cows (mixed). Gascoine said he had sold milk for six years.—Mr. Stevens asked if he might call Dr. Ashby.—Mr. Brain objected on the grounds that the case for the prosecution was closed; it was not fair, according to practice. Mr. Stevens said Dr. Ashby had made further calculations.—The Bench said they were anxious to obtain the technical points.—Mr. Brain thereupon asked the chairman to notice that he strongly and most emphatically protested against the practice, which was quite new.—Dr. Ashby explained that the milk the inspector sampled was taken from the churn, and was mixed milk, so could only be compared with the mixed milks, and not with the milk of single cows given by Bell. If 8.4 per cent., the lowest figure for solids not fat which he gives, were taken as the limit, the sample in question would still prove to be adulterated with 5.6 per cent. of water.—The magistrates retired to consider the cases, and, on their return, the Chairman said Gascoine would be fined 40s. and 22s. 6d. costs.

We proved by re-calculations long ago that the Somerset House analyses above alluded to were incorrect, but Dr. Bell and the Somerset House chemists have never had the decency to publicly own that we then proved beyond doubt that the analyses were unscientific, misleading, and ought not to be listened to in evidence. It was well that Dr. Ashby was present to correct the erroneous impressions thus conveyed to the Reading Bench.

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## WATER AT WHISKEY RATES.

BEFORE the Torrington county magistrates on October 22th, George Mill, landlord of the Devonport Inn, Shebbear, was summoned for selling adulterated whiskey in contravention of the Food and Drugs Act. Superintendent Buchanan proved purchasing half a pint of whiskey, which was found to be 41 degrees under proof, the legal standard being 25 degrees. A fine of £2 and costs was imposed.

## 18 PER CENT. EXTRA WATER IN GIN.

At Ryedale Petty Sessions Samuel Parker, innkeeper, of Kirby-moorside, was summoned for selling to Inspector Marsden a pint of gin which was adulterated with 53 per cent. of water. Inspector Marsden said that on September 20th he went to defendant's house and was supplied by defendant's wife with a pint of gin, for which he paid 1s. 8d., and which he divided in the usual manner. Mr. Fairley's analysis showed that the sample contained 53 per cent. of water, or 18 per cent. beyond the limits of the Act. Defendant said he expected the gin was all right. The magistrates said defendant had rendered himself liable to a fine of £20. He would have to pay £1 and 6s. 6d. costs.

## BURY AND ADULTERATION.

DURING the last quarter the public analyst received from the inspector 13 samples. These samples consisted of the following articles, viz. :—Milk 5, butter 3, cheese 1, spirits 2, and coffee 2. The whole have been carefully analysed, and reports thereon duly handed to your inspector. There has been one sample reported as adulterated, namely, a sample of coffee which was found to be mixed with no less than 40 per cent of chicory. The vendor was prosecuted, convicted, and fined 10s. and costs. The remainder of the samples were found to be pure, but I desire to state that in the case of two samples of milk the quality was so poor that the probability is that they had been tampered with. They, however, just reached the required standard, and had to be passed as pure. The present standard of quality recognised is, in my opinion, altogether too low, as it allows ordinary good milk to be robbed of a portion of its cream, diluted either with water or "skim" milk, to a very considerable extent, and such samples, public analysts have no option but to declare pure.

## LARD ALMOST ALL COCOANUT OIL.

BEFORE West Powder magistrates at Truro, on October 27, Edward Knight, grocer, of Chacewater, was summoned for selling adulterated lard.—Superintendent Basset purchased 1½lb. of lard from the defendant for 10d., and Mr. Benedict Kitfo, analyst, certified that it was almost entirely composed of prepared cocoanut oil, and was not lard at all. Defendant said it was the same as he sold to his customers.—Defendant now alleged that he told the superintendent it was not pure before the purchase was made.—Superintendent Basset : That is not true.—The Chairman (Mr. Polwhele) : Where did you get this stuff from?—Defendant : Mr. Dixon.—The Chairman said this was the worst case of the kind which the Bench had had before them, and it was high time the public were protected. An article was sold as lard which actually had not a particle of lard. If defendant did not intend to sell it as pure lard he should have so labelled it. Defendant would be fined £2 and costs, and the Bench hoped this case would serve as a warning to others.

## THE HANLEY GINGER CASE.

THE analysis made by Mr. E. W. T. Jones in the Hanley spent ginger case reported last week, was as follows :—

Moisture	...	...	11.43	per cent.
Volatile oil	...	...	1.12	"
Ethereal extract	...	...	4.60	"
Alcoholic extract	...	...	1.55	"
after ether	...	...		"
Starch, cellulose, etc.	...	...	77.96	"
Ash	...	...	3.34	"

Total...100.00 per cent.

Soluble ash (1)	...	...	1.49	per cent.
" (2)	...	...	1.48	"
Of which potash	...	...	0.74	"

The Hanley stipendiary, in the face of the above, refused to send the third sample to Somerset House, having had, as he said, experience of "their careless and disreputable analyses." Somerset House is being found out.

## ANSWERS TO CORRESPONDENTS.

R.H.W. —Thanks for report.

## SOMERSET HOUSE AND THE WEST SUFFOLK ANALYST.

WEST Suffolk magistrates are at last beginning to understand how worthless any statement emanating from Somerset House must be as regards adulteration. At Clare Petty Sessions, October 22nd, John Keepin, Kedington, was charged with having sold to Superintendent Bardwell two samples of butter, which Mr. James Napier, county analyst, Ipswich, found contained 20 per cent. and 15 per cent. of foreign fats respectively. The cases had been referred a month ago to Somerset House, who reported that one sample contained a percentage of foreign fat, but the other afforded no evidence of the presence of any fat other than butter fat. In mitigation of the penalty in the case where Somerset House stated that the butter was adulterated, it was stated that the defendant had no warranty, and that the person supplying the butter, Messrs. Page and Son, of London, had written that they had no doubt about the purity of the article in question, which they described as "Yambuk Butter." Curiously enough the butter which Somerset House alleged to be pure had only cost 10d. per lb., whilst the butter they certified to be adulterated had cost the defendant 11½d. per lb. As the Somerset House chemist's certificates cast a doubt upon the accuracy of Mr. Napier's analysis, Superintendent Bardwell put in a letter from Mr. Napier respecting the analysis made by the fog-enveloped Somerset House Department, which the Chairman of the Bench said he did not think was meant for public use. It would assist them in understanding the cause of the apparent differences, although it would not have any influence upon their decision. Under the circumstances Mr. Keepin had bought the butter implicitly believing in its purity. The Bench considered the case one for a lenient fine, and Mr. Keepin had to pay 10s. and £2 3s. 6d. costs, which included half the fees for the analysis.

## LIMEHOUSE BOARD OF WORKS AND THE CONGREGATIONAL UNION.

## THE MEDLAND HALL NUISANCE.

THE Sanitary Committee recommended that a summons be taken out against the owners to abate the nuisance, and the services of counsel obtained.—Mr. Lewis said the authorities had undertaken, in the first case, to keep the number of persons sheltered to about 300, but when the sanitary inspector again visited the hall there were no less than 504 persons housed there. Mr. E. Smith said they had had enough promises, and it was now time legal action was taken. These places were nothing less than dens of infamy and sinks of iniquity. Every morning men could be seen leaving these sort of shelters in a most filthy condition.—Mr. Warren moved that the matter be referred back to the Committee for further consideration, and for the medical officer to attempt to arrive at a compromise with the authorities who were trying to help a despairing class. He did not believe that the few hours the men were in the shelter was at all prejudicial. The hall was properly managed, and any suggestion made by the Board was carried out.—Mr. Cocksedge seconded the amendment.—Mr. Lewis contended that the aim of the Committee was to help these poor fellows, who were packed in the hall like sardines in a box. The whole condition of the place was awful, and if that was philanthropy he hoped to be kept from it. He denied that the sanitary arrangements were all that could be done. Had the authorities there room for 500 persons?—Dr. Rogers : Certainly not.—Mr. E. Smith thought it was time this maulin sentiment was ended. To condone the conditions of things at the hall was to ignore the representations of the Board's officers, and to make the Board as bad as the offenders. If they spent £300 in this matter, they would save the Stepney Guardians £500, because men were brought to the district by the attractions of the Congregational Union. He objected to have to live with his children in a district which was jeopardised in this manner.—Mr. Davis said the Congregational Union had broken their promises in regard to Medland Hall, as they had done with regard to their place in the Burdett-road.—Mr. Bucknell said that the point was that Medland Hall was an attraction to loafers and idlers to come into the parish, and this was, he thought, a distinct evil.—Mr. Warren withdrew his amendment, but stated that, seeing the attempted prosecution of the hall had twice failed, to again take action was a waste of public money.—The recommendation of the Committee was then adopted *nem. con.*

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## THE SELECT COMMITTEE ON ADULTERATION.

## CONTINUATION OF MR. BANNISTER'S EVIDENCE.

## XVII.

(Continued from page 344.)

Do you remember a case that occurred before the Derby Borough Bench, in which your certificate was brought into question; it was in October, I do not know in what year, but quite recently, I think, in which a certificate on a sample of milk was given which showed less than 8·5 per cent. of solids not fat, and you furnished the magistrate with a certificate on a sample of milk one month old, or rather less, which the analyst reported to be watered, and which you found to contain 7·89 per cent. of solids not fat more than it ought?—I cannot keep those figures in my head. If you had given me notice I would have brought our book of analyses, and then I could have referred to it.—Perhaps you will refer to it at a later period?—Yes.—With regard to fixing a standard, you are adverse to a hard-and-fast standard being fixed?—I am.—An honourable member, who is now away, asked you a question as to whether in the case of a fixed standard all the richer milks would not be watered down to that standard; but surely that would apply now, because, although there is not a standard fixed by Act of Parliament, there is the standard that Somerset House uses, which is well known; and, consequently, if a man wished to adulterate, he would water down to that point?—But there may be means of knowing where that man gets his milk from, and, certainly, if a sample of milk came before me, and I found that it contained 8·8 per cent. of solids not fat, and 3 or 4 per cent. of fat, if I knew for certain the origin of the milk, and it had been watered, I should certainly return it as adulterated. Has there been any expression of opinion on the part of large dairy companies, do you happen to know, as to the desirability of fixing a standard?—I do not know that there has.—I understand that they were adverse to it in the early days of the Act, but that now they have expressed an opinion in favour of a standard being set up.—Perhaps you do not know that?—No.—As regards butter, have you a standard for butter?—No.—I understand that after you have made your analysis, that is to say, after you have ascertained the portion of soluble and insoluble fatty acids, then from the physical conditions of the sample you determine whether the sample is genuine or not. Can you explain to the Committee precisely what you mean by that. What are the physical conditions to which you refer, and what limits do you allow for moisture with regard to the soluble and insoluble fatty acids?—The butter when it comes to us is one that has been kept a little while. We have to take into consideration as to whether it is rancid or not, whether it is mouldy or not, and other physical appearances and indications connected with the examination of the sample, before we can come to a distinct conclusion as to whether foreign fat is present or not, unless it is in a special case, an extreme case.—You stated that there is very great difficulty in the analysis of butter, because by keeping the percentages are changed?—That is so.—So that it must follow that if you get a fresh butter to which margarine, in certain limits, has been added, the result will be the same as the examination of old butter that is genuine?—Yes.—But the public analyst receives the sample as soon as it is purchased?—I think this will throw light upon the examination of butter; if you will allow me to read a quotation from the last number of *The Analyst*, which has just come out. On page 154 this statement is made in connection with the Valenta Acetic Test for foreign fat, by Mr. Hehner: "He had experimented a good deal with the Valenta, and once thought highly of it; but on fuller experience he had been disappointed, as was the case with all other methods of fat analysis;" and further down, on the same page, Mr. Hehner said: "It seemed to him that these small mixtures, up to about 15 or 20 per cent., were as undetectable by the Valenta as by any other process.—Of course the analyst would have to state on his certificate whether the butter, as in the case of milk, had undergone any change that might interfere with the analysis?—Yes.—And he would be in a preferable position for correct analysis, dealing, as he would deal, with perfectly fresh butter?—He would have the butter in a physical condition that would certainly be better than when we got it further on, if it had been kept properly.—Do you adopt the same process in dealing with butter as you do with milk; do you have to consider the possible result of the butter being made from the milk of a cow giving poor milk?—I am very glad that you have asked me that question, because the butter, as it is now put on the market, is really the joint production of many cows. There is no doubt that, both in this country and abroad, the co-operative dairying, the collection of butter from different sources, and then being re-made, is largely on the increase; so that now you very seldom find butter made from one individual cow.—Do you think that that system gives better results?—It tends to give more uniform results. There is great difficulty at the present time in getting ordinary commercial butter that would contain the same quantity of soluble fatty acids as some of the butter obtained 10 or 15 years ago, because now there is no doubt that persons who have cows, in country places particularly, sell the milk instead of making butter, so that we have to depend on large dairies, co-operative farms, and the like of that, for our supply of butter; and therefore we shall have it more uniform than we used to do.—Do you think that the average quality of that milk is lower or higher than of the milk that used to be employed in making butter on the

small dairy process?—There is no doubt that if you get a cow or cows that are well fed and give good milk, the butter obtained from that milk will often be rich in soluble fatty acids, and comparatively low in insoluble fatty acids; and when you get a sample of butter from the market at the present time we find that the soluble fatty acids are lower and the insoluble fatty acids higher than in that particular case to which I refer.—With regard to the question of the limit of water in butter, you suggest that 16 per cent. is a fair maximum?—Yes; I should like, if I could, that that should refer to tub butter, salt butter.—That will be the maximum of all butters?—As regards fresh butter, take the case of New Zealand, where the limit is 8·88. A man could work in 8 per cent. of water there, and although it would be under 12 per cent., it would be adulterated, and he ought to be punished.—But under the magistrates' decision he is at liberty to go to 20 per cent. of water?—Yes.—So that if the limitation were fixed at 16 per cent. there would be a clear gain of 4 per cent. on the present basis?—Yes; but it is right for me to tell the Committee, I think, that on Saturday I got a report from Ireland to the effect that the Cork authorities are prosecuting the farmers now round Cork for supplying butter to the Cork market containing 20 per cent. of water, and they have got convictions in all the cases. The Cork authorities have come to the conclusion that it is very necessary that this form of adulteration should be put down, because the Cork butter is being driven out of the market.—But, speaking from memory, was not the defence at Manchester that these particular Irish butters could never be expected to bear less than 20 per cent. of water?—That was the statement made.—By those interested in Irish butter and its character?—Yes; from the farmers.—The strong evidence given before the magistrates at Manchester on the part of Irishmen interested in butter was that it was perfectly consistent with the butter being legitimate that it should contain 20 per cent. of water?—There is no necessity for it to contain 20 per cent. of water.—But that was their point?—Yes.—So now, from information which you have received, they are rather shifting their ground, and taking up another attitude?—I think it is necessary.—So do I?—If this is relevant to my former statement, I may say that I was talking to a large butter importer in Manchester, who drew large supplies from Ireland, on this question of the large excess of water in Irish butter; I said that I felt quite sure that it would have the effect of deterring people from buying Irish butter; that they will get it from other sources. I saw him some time afterwards, and he said that I was perfectly right, that they were getting tub butters from Denmark; that their customers would not look at Irish butter, because it contained such a large quantity of water.—Would you agree with fixing a standard of the percentage of water in order to keep the trade in the United Kingdom?—I think that could be done without fixing a standard.—By the trustees of the Cork market, and such people?—Yes; I think the market itself will settle the standard.—I have had brought to my notice a certificate given by Dr. Bell in his book, where he included under the head of genuine butter a sample containing as much as 20·75 per cent. of water?—That is a very long time ago, and that was a private sample.—You would not pass a sample now with 20 per cent. of water?—Not without making a remark about it.—You would not pass it as genuine, would you?—No.—The Minister of Agriculture asked you the other day whether you had ever heard of an article called lactine or cocoa butter, or lardine, and as to whether those articles were inferior kinds of margarine. Do you consider that those articles enter into the composition of margarine at all?—I do not know.—Is not this lactine refined cocoa-nut oil?—It is.—And it is used, I understand, as a cooking fat chiefly for export purposes?—Yes; it does not answer very well for cooking fat; it is so objectionable in flavour.—And lardine is a lard substitute?—Yes.—And not in any way whatever sold as a low character of margarine?—It is not.—With regard to vinegar, you stated in reply to a question by Sir Charles Cameron the details of a case of vinegar adulteration?—Yes.—In that case the maker who supplied a number of shopkeepers at Sheffield with adulterated vinegar, of whom eight had previously been apprised of it, had at last been traced by the authority, and the analysis of the public analyst showed that the sample contained 20 per cent. of real malt vinegar, and 80 per cent. of diluted acetic acid not made from malt. Did you know that when the sample was referred to you?—It was stated on the certificate.—A sample was referred to Somerset House, with the assent of the magistrates, of course?—Yes.—Did you take no other steps to ascertain the composition of that vinegar?—Not at that time.—But had you had independent investigations made on the part of Somerset House in the district?—We made inquiry about the method of manufacture of the vinegar, and what was done by this particular manufacturer through our own collector.—When this case was referred to you, you did not simply answer the question at issue, whether or not the vinegar contained only 20 per cent. of malt vinegar; your certificate, as I read it, gave no direct answer to that question, but stated, after giving the result of the analyst, "We are of opinion that this vinegar has been prepared by mixing products derived from the fermentation of malt and sugar with acetic acid, obtained by the destructive distillation of wood. From a consideration of the analytical results, we are of opinion that the acetic acid derived from wood does not exceed a fourth of that present in the vinegar;" do not you think that that certificate would rather have a tendency to induce the magistrates to dismiss the case?—It might; but after examining the sample, I was surprised that any person should say



that it contained 80 per cent. of acetic acid and water.—Then your certificate was really at variance with that of the public analyst?—To that extent. There was no indication of 80 per cent. of acetic acid and water.—Is there any test for wood acid?—None.—In your certificate did you condemn the vinegar?—No, we reported exactly as you read; I expect that is a copy of our certificate.—It is; you did not condemn the vinegar, but reported that it was not a sample of malt vinegar?—No, it was referred to us as malt vinegar; then other remarks were made in reference, and what we said was for the purpose of clearing up the reference.—On the question of malt vinegar, do you agree that when malt vinegar is asked for, it should be vinegar distilled from malt?—No.—Made from malt?—Made from malt and grain; made from malt or malt and grain.—But you would not give any further latitude in the making of vinegar; or rather, when malt vinegar is demanded, you would consider that it should be made of malt, or malt and grain?—I should liberally read the expression "from grain," because in some cases it has been said that the word "grain" refers to barley. If a man used other grain, or other starchy matter, I should consider that that brewed with malt was malt vinegar.—Many suggestions have been made, I believe, on the part of the Society of Public Analysts, that there should be a central department having the power relegated to them that Somerset House now enjoys, consisting of six, or more, or less, perhaps, gentlemen of scientific standing, including three public analysts who should work out methods of analysis and lay down limits and standard; do you agree with that suggestion?—I do not.—I think you raised the point that the commercial interest should be represented?—Certainly. As soon as that paper was read, the very first suggestion made by a chemist and druggist was that there should be two chemists and druggists put on; you can easily see, therefore, that if you have a central board of that kind you must have the trades represented. But I think you want a more central laboratory to do the work.—Would you have it a Government Department?—There would be a great deal of work to be done by a central laboratory of that kind, if it were to be organised as you state.—I may say that as regards the trading community of London, at all events as represented by the Chamber of Commerce, they have given their approval to some such scheme. They feel that it would be advantageous to have a more representative body in closer touch with public opinion than Somerset House?—As a member of the Chamber of Commerce I saw what was done at the Chamber, and I thought it necessary to have some enlightenment on the other side as well. There was one side very well represented but not the other.—You do not think that it was an acceptable expression of opinion; you think it might be subject to reversal if the point were raised again?—I think so.—Mr. Colman: You referred, I think, to the laws on adulteration in other countries?—Yes.—Have you in your office any details of the Acts as to other countries?—I have got the details of an Act of Parliament about the manufacture of oleo-margarine in America. I have also written to the French authorities and the Austrian authorities for the purpose of getting fresh information, and I am promised it. But I am sorry to say that it would take me something like six weeks or two months to get it; but I shall be happy as soon as I get it to place it at the disposal of the Committee.—Then, perhaps, when you do get it you will communicate with the Committee, if they are sitting?—Yes, with pleasure.—Do I rightly understand that that relates to adulteration, or simply to margarine?—To margarine only; the manufacture of it, and the selling of it.—But I thought that one of your answers referred to the law as to adulteration in other countries being somewhat different from ours?—I think there is some misunderstanding. I referred particularly to milk in that connection.—On the question of cases that come before you for analysis having been before the magistrates, do you get, when the samples come to you, the analysis which has been put before the magistrates?—No, we do not. The charge is put before us in the report from the clerk to the magistrates, but not the figures.—Then in what way do you find that you differ from the public analyst?—That is when the case is heard before the magistrate afterwards.—A report is sent to you?—A report is sent to us by the clerk to the magistrates, with the sample, and stating what the allegation of adulteration is. We examine the sample, and then we send our report to the clerk to the magistrates, or to the gentleman who corresponds with us; and then, generally, we hear nothing more of it until we pick up the information in the newspapers, from the report of the case when it is finally heard before the magistrate.—There is no other return to you as to the result before the magistrate?—None.—Do you think it would be desirable that there should be such a return made to you?—I think it would be desirable.—On the question of milk we have had some very strong opinions expressed, either by yourself or by another witness, as to the un-nutritious quality, if I may put it so, of skim milk?—But that is not so; skim milk is very nutritious.—You think it is nutritious?—Certainly.—I think we have had from some witness an expression of opinion as to the want of nutrition in skim milk, and I want to call attention to the fact that the Committee which sat in 1874 expressed the opinion that skim milk is a nutritious and valuable article of food. That Committee was of opinion that the sale of skim milk for new milk should decidedly be regarded as a punishable offence, but that skim milk itself is a perfectly wholesome article. In that you would agree?—Certainly.—Have you anything to say as to what we call separated milk as distinct from skim milk?—I think that separated milk is better than skim milk. It will not contain so

much fat, and that is the objection to it, but it is a fresh milk, and skim milk is not. Skim milk is just on the point of souring, and that being so, it follows as a matter of course that separated milk can be used for domestic purposes for feeding children, and it is quite suitable for feeding children when you can give them a little more fat from some other source than what skim milk has.—Mr. Whiteley: You would say that it is a good thing for bone and tissue?—Yes, that is just it.—Mr. Colman: Have you any knowledge of the comparative nutrition of separated milk, according to whether it is separated by the ordinary hand machine or whether it is separated by steam power?—I can give you a little information about the separation by steam power. At the Bath and West of England Agricultural Show in 1888 the fat left in the milk by a separator was 1-11th of 1 per cent., so that it was nearly all taken out.—Have you any knowledge coming before you especially as to the question of colouring milk?—We see it from time to time, nothing more than that.—Is it a common practice?—Quite common.—In all parts of the country?—In all parts of the country.—On the question of margarine, do you think that it is injurious as an article of food that margarine and butter should be mixed together?—I think it is not injurious.—Your point is simply that it should be sold fairly as a mixture?—At the present time it has to be sold as margarine.—Do you think that that is desirable, or that it should be sold as a mixture?—There is only one point to be said against its being sold as a mixture, and that is that it is very easy of manipulation. It is not like coffee and chicory; it can be done at any moment at the time it is sold; so that it is slightly different from a mixture of coffee and chicory.—I think you said that one of the difficulties as to butter was that you did not like to seize a parcel of butter because it is a perishable article?—On importation, yes.—Would that be met if suspected parcels, being seized, could be released by a bond of value being given by the consignee?—It could be met in that way.—Could something of that kind also be done in the case of milk coming in considerable quantities from farmers?—Yes, but there is a difference in this respect: that one is coming from abroad and the other is produced in this country; and, in the one case, a warranty comes in and in the other case it does not. So that, so far as the farmer is concerned, the consignee could be protected, to a large extent, by the warranty which he gets from the farmer.—But, so far as butter from abroad is concerned, you think that that would be a fair way of meeting that point?—I think it might be met in that way.—Do you recollect anything of a case which occurred in Merthyr, in which your decision was different from that of the analyst, as to vinegar?—Yes.—I think that the analyst came to his decision on account of the absence of phosphates from the vinegar?—I cannot remember the whole of the circumstances, so you will excuse me if I speak with caution. I believe that that was the reason why he came to that conclusion.—You referred to malt vinegar, and you said that it had to be made of malt, or malt and grain; but in using the term "malt," do you mean necessarily malt made from barley?—No, it would include any malt.—Malt may be fairly made from any wholesome grain?—Yes.—And that would be included in your term "malt"?—Yes, but as a rule you find that nearly all malt is made from barley.—But you would not necessarily require that it should be made from barley?—Certainly not.—Now, if a public analyst writes to you for a standard for an article, do you give it?—We give him a limit; any information that we can give him on the subject we do give him.—That is in the ordinary course of things?—Yes.—Do you think these standards or limits would be well fixed, as has been suggested, by a board of analysts and scientific men?—Personally, I am opposed to standards altogether; I think that we can do a great deal better without them.—If any board of analysts and other scientific people were arranged for helping the working of the Act, do you think that that, irrespective of standards, would be desirable?—I think it would not, unless everybody was represented, the scientific part and the trading part.—This is the question which I wanted to come to: perhaps the analysts would not assent to that?—I expect they would not; I do not know.—You think that if there is a board the traders should in some way be represented upon it as well as the scientific element?—Certainly.—I do not think we have had it handed in; I do not know whether you could hand in the form which I think the Local Government Board sends out for the qualification for an analyst; have you any knowledge of that yourself?—I have not.—Mr. Yerburgh: I want to ask you on one point with regard to the manufactories of margarine in this country. In reply to Sir Charles Cameron, I think you said that every place where margarine is manufactured in this country is under inspection?—Is licensed.—That is in reply to one question; but in another question, Sir Charles Cameron asked you whether it was under inspection, and you said yes?—What I meant in my reply was not that it was under inspection in the sense of watching the manufacture, but simply that a notification was given about the place, and a licence had to be taken out for it; and of course the authorities would see, or would know whether the licence had been taken out or not. But so far as the details of the manufacture are concerned, I did not intend that remark to apply to the details of the manufacture carried on in that particular place or factory.—I did not propose to ask you for an illustration of the Margarine Act, but I put that question to you on account of your answer to Sir Charles Cameron. I understand you to say that you do not commit yourself to the opinion that there is a power of inspection of these factories?—I



do not.—With regard to your reply to the question upon the working of the Margarine Act, you were asked upon the colouring question, and your answer was that you thought that “there should be a right to colour margarine in the same way as the colouring of butter is allowed.”—Yes.—I think you based that opinion, turning to your reply, on the fact that “any registration of that kind must increase the price of the finished article.”—Yes, it would increase the price of the finished article.—But, then, do I correctly understand you to imply that margarine sold under its proper colour, without any colouring matter, would command a higher price in the market than margarine sold coloured?—My remark applied to mixtures both of margarine and of butter that are called margarine under the Act.—But I understood you to say that, if colouring was prohibited, prohibition would increase the price of the finished article?—It would not increase the price of the finished article as margarine, but what I intended to state was that any prohibition of that kind must have a tendency to increase the price of the butter that was sold; because, of course, margarine, not being coloured, could not be used as a substitute for butter as it is now.—Then I understand that your view is that if you prohibited the colouring of margarine the effect would be to raise the price of genuine butter, because the margarine would not come into competition with it?—But that remark about margarine applies to mixtures of margarine and butter imported in the name of margarine.—But I understand you to say that if the colouring of margarine were prohibited the price of butter would be increased?—Yes.—I understand from that, that your objection to the colouring of margarine is that the price of genuine butter would be raised?—To put it another way, margarine at the present time, as imported into this country, contains a large quantity of butter in many cases, and if we were to prohibit the colouring of that mixture of margarine and butter, it follows, as a matter of course, that it cannot be used as an ordinary substitute for butter to the same extent as it is now, and, consequently, the price of butter must be increased. That is the meaning of that answer.—Therefore, broadly, it comes to this: that if you prohibit the colouring of margarine, the price of butter will increase?—It must do so.—Have you any other objection to the colouring of margarine?—None.—Are you aware of any of the regulations in force in other countries with regard to margarine?—Yes, in some other countries, especially when you come to countries that are very large importers of butter, they are very particular about the colouring of margarine; but in this country we are just in the other position; we have a very large number of consumers, and not sufficient food for them to eat.—Do you think, then, that abroad they are justified in making such regulations about the colouring of margarine?—Take a country like Denmark; the exports of butter and milk are about the only exports that they have, so that they will do everything they possibly can to increase their butter and milk industry.—Then let us take the case of France; do you know what the feeling in France is?—In France at the present time the feeling is, no doubt, to suppress margarine.—Mr. Whiteley: On the part of whom?—On the part of the Government; simply because there is such a large quantity of butter imported from France.—Mr. Yerburch: You are not aware of any representation having been made on behalf of the makers of margarine, against any proposal to interfere with the colouring of margarine in France?—I am not certain; but I think that the colouring was to be prohibited, and there was to have been a factory started, I think, at Southampton, simply on account of this colouring; but that was abandoned.—From the point of view of the consumer, upon the question of the colouring of margarine I take it that the colouring does not add to the wholesomeness of margarine in any way?—But it adds to its appearance.—That is not my question; is it equally wholesome for people to eat?—Yes.—And, apart from improving its appearance, it would be equally good for the consumer if it were not coloured?—I think he would not enjoy it so much.—That is not the point?—But it has a great deal to do with the point. It all depends upon whether you have an appetite when you sit down to your food, whether you enjoy it or not; and in the same way from the appearance of margarine that is not coloured, the person who uses it will not enjoy it so much if it is not coloured.—Mr. Frye: You might say the same of butter?—Certainly.—Mr. Yerburch: You would raise no objection to colouring butter?—Is it coloured already?—You would not interfere with that?—No.—Mr. Kilbride: What percentage of grass butter made at this time of the year is coloured?—I should think none; but in winter there is a large quantity coloured.—Mr. Yerburch: Then I take it that, on the same ground of pleasing the consumer, you would see no objection to a small quantity of butter being added to margarine, apart from the colouring matter?—The margarine imported into this country contains large quantities of butter.—I know it does; but you see no objection to that?—I do not see any.—Therefore you see no objection to margarine being coloured, or to its having butter mixed with it?—So long as it is called margarine, or the purchaser knows that it is a mixture.—I think you are of opinion that these Adulteration Acts ought to be administered very strictly?—Certainly.—Would you look at another question; you were asked upon the question of the test for foreign fats, and your reply was, “The margin that is allowed you is so wide that the adulterators could take an ordinary butter of good quality and add to that a quantity of foreign fat, and in chemical composition it will correspond with genuine *bona fide* butter?”—Yes.—Therefore I would like to ask you whether the practice of which you

approve, namely, of mixing butter with foreign fat and colouring the foreign fat, does not make it more difficult for you to detect adulteration?—Certainly it does.—Therefore, if you are really anxious to see these Acts strictly carried out, you told the Committee you would rather be in favour of prohibiting the colouring of margarine and the mixture of butter with it?—Yes, in the abstract.—But when it comes to practice?—We are compelled to take a commercial view of all these questions.—Do not you think you are rather taking the view of the seller of the article, and not of the consumer?—I hope I am not.—Do not you think that it is the interest of the consumer that adulteration should be stopped, if possible?—Certainly.—Mr. Kilbride: Does not the colouration of margarine tend to lead to fraud?—It does.—Does the colouration of butter, in your opinion, lead to fraud?—No.—Mr. Yerburch: I do not think you have been asked any questions as to whether there was any adulteration of cream. Have any samples of cream been referred to you?—We have had no samples of cream that have been adulterated.—Mr. Dunbar Barton: You are reported in some papers, including *The Grocer*, to have said this, when you were asked as to where the butters came from chiefly that were adulterated with foreign fat: “The witness replied that some came from France, and some more generally from Ireland.” I take it that it is a mistake to say that you said Ireland?—I did not say Ireland at all. Any remark that I made about Ireland was about water.—Then that is a mistake?—Yes.—You never suggested that there was any adulteration with foreign fats in Irish butters?—I have not seen any.

### DR. TEED ON ADULTERATION.

WRITING to the Camberwell Vestry, Dr. Teed says: “Milk, butter, and whiskey are articles that specially lend themselves to adulteration. It is so easy in the case of milk and whiskey to pour in water, and, in the case of milk, to substitute separated for new milk; in reference to butter, it is impossible to distinguish by the appearance this article from margarine, and accordingly the latter is frequently substituted for the former. The readiness with which these articles can be adulterated must, to a great extent, be the reason that they so frequently figure in lists of adulterated articles, for it would be absurd to suppose that the fact of dealing in such articles exerts a more prejudicial effect on a man's moral character than if dealing in tea and sugar. It has been proposed that to diminish the facility, and therefore the temptation, to adulterate butter, margarine should either be coloured pink, or should not be permitted to be coloured at all. Such a proposal, if carried into effect, would doubtless reduce the amount of margarine sold as butter, and would be almost equivalent to prohibiting the manufacture and importation of margarine, as there are probably few who would care to see the breakfast table adorned with a bright patch of pink where the butter dish should be.

To stop the adulteration of spirits, the fraudulent vendor might not only be prosecuted, but the renewal of his licence might be opposed on the ground that he has broken the conditions of it, and instead of selling spirit has been selling spirit and water.

There is no way at present open to stop the adulteration of milk, except the exercise of extreme vigilance and the pressing for really deterrent penalties, the amount of the penalty in many cases being perfectly insignificant. Clerkenwell Vestry has, I understand, adopted the plan of advertising the names of all persons convicted for selling adulterated food, but I am not able to say whether this drastic proceeding has had the effect desired of reducing the amount of adulteration in the parish.

### ADULTERATION OF DRUGS, ETC.

At the Camarvon County Magistrates' Court on October 19th, before Dr. Taylor Morgan and others, the police summoned J. O. Davies, a grocer residing at Cwmyglo, for selling spirits of nitre not of the nature and quality of the real article. The constable who bought the samples for analytical purposes was supplied from a bottle labelled “Spirituous Solution of Spirits of Nitre,” which, according to the analyst's certificate, was adulterated with 46 per cent. of water. Mr. J. T. Roberts defended, and explained that, in the event of a conviction, he was instructed by the manu facturers of this drug, Messrs. Bell, Sons, and Co. (Liverpool), to apply for a case. His defence was that the constable never asked for spirits of nitre, but he simply asked for six ounces out of a bottle which stood on the counter, and was conspicuously labelled “Spirituous Solution of Spirits of Nitre,” which label, he (Mr. Roberts) contended, fully protected the seller. The Bench imposed a fine of 10s. and costs, but granted a case for appeal.—D. Hughes (Clynnog) and Erasmus Jones (Rhostryfan), charged with a similar offence, were ordered to pay costs.—Elizabeth Williams (Talsarn), summoned for selling coffee adulterated with 20 per cent. of chicory, was ordered to pay costs. Mr. Carter defended.—Catherine Chambers, Victoria Vaults, Penygroes, for whom Mr. Carter appeared, was also mulcted in costs for selling adulterated rum.



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## Food and Sanitation.

SATURDAY, NOVEMBER 10TH, 1894.

### IMPORTANT POINTS FOR THE NEW ADULTERATION ACT.

#### THE MILK TRADE AND THE WARRANTY GAME.

THE need for evidence being taken by the Select Committee from Food and Drugs Act inspectors who have had practical experience of the difficulties connected with the enforcement of the Acts to suppress adulteration is shown in a striking manner in the letter we publish in our Correspondence columns from an exceptionally able inspector of food and drugs. The thwarting effect of the Warranty Clause has never to our thinking been more plainly stated, and it will be a great pity if points of this character by practical men concerned with the working of the Food and Drugs Act are not given full prominence in the evidence taken by the Select Committee. There has never, as far as we have been able to discover, been any possible justification for the Warranty Clause of the Food and Drugs Acts. The warranty enables the vendor of the adulterated article to escape punishment, and, in the most complete manner, stultifies the Act itself. The difficulties, as our correspondent points out, of bringing the giver of the warranty to justice are appalling, the issue of the seven or eight summonses, the serving of the same, the arranging of evidence, etc., being so costly, and taking up so much of the official's time, that this, allied with the possible failure to secure a conviction of the warranty-giver, has proved the most effectual deterrent to local authorities taking action against warranty-givers. It is only practical men like our correspondent, who have the procedure of the Acts at their fingers' ends, who understand the free hand the warranty gives to the practice of adulteration, and the Select Committee of the House of Commons which we hope to see appointed next session, if it wishes to obtain information of a really valuable character, cannot secure it unless it arranges to hear the evidence, not of one or two, but of at least half-a-dozen of the Food and Drugs Acts inspectors, who have had the largest and the most successful experience of the working of the Food and Drugs Acts. They know better than all the theorists what are the practical difficulties encountered in suppressing adulteration, and as they have no objects to gain other than those of faithfully serving the authorities

employing them and of protecting the public from frauds, the baneful effect of which upon English industries are now well recognised, we trust that the Select Committee will not content itself with the evidence of professed specialists, farmers' representatives, grocers' representatives, and the like. That an Adulteration Act is a necessity, all admit. How to make that Adulteration Act a really serviceable weapon for public protection from fraud none can tell so well as the Food and Drugs Acts inspectors themselves; for, after all, their experience of the Acts has been the greatest and the most instructive.

Upon this very warranty question, for example, which our correspondent has so well exposed, the *Cowkeeper and Dairyman*, a valuable, well-meaning, and, in the main, fair-minded journal, takes us severely to task in its current issue for our exposures of the warranty and our instance that a colossal swindle could be worked in London by any large milk firm arranging that farmers supplying it with milk should charge a lower price, the milk being adulterated before being sent to London, and the farmer giving a warranty that it was genuine. The *Cowkeeper and Dairyman* roundly asserts that such could not be the case. We differ from our contemporary. On this question at least we are able to speak with a far greater authority than our contemporary possesses. We have before us the analysis of one large company's milks, and these milks are not only grossly adulterated, but they are tampered with in the most barefaced fashion. This firm sells no milk for which it does not possess warranties. Samples taken not long ago in two London districts of this firm's milk upon the same day showed in one parish an average of over 3.25 per cent. of fat, while in the adjacent parish the same milks ranged from 2.60 to 2.75 per cent. We have every reason to believe that, in addition to the warranty game, a collusion extremely prejudicial to the public exists between the vendors and officials responsible for the working of the Acts. But, be that as it may, it is certain that, in the event of any prosecution taking place for these milks, the warranty defence would be pleaded, and punishment of the vendors become impossible. With all respect, therefore, for the *Cowkeeper and Dairyman's Journal*, and recognising as we do that it is the only paper of its class which seems to give serious thought to these questions, to have the capacity to grasp them, and to have opinions of value concerning them, we see no reason, in the light of our own knowledge and experience of the thieving character of the Warranty Clause of the Food and Drugs Acts, to at all alter our opinion. The combined experience of Food and Drugs Acts inspectors and of milk vendors would incontestably prove that the Warranty Clause is utterly indefensible. The *Cowkeeper and Dairyman's Journal* accuses us of making an attack upon the trade. Nothing was further from our minds. No stronger testimony could be adduced as to the integrity and high sense of honour of the bulk of those engaged in London's milk supply than the fact that with the absolute inducements to plunder the public that this Warranty Clause offers there should be so few who avail themselves of it to palm adulterated milk off upon purchasers as genuine milk. But it is, as we have repeatedly pointed out, an intolerable scandal that some of the very largest firms in the trade have reduced the warranty swindle to a science. It is in the interest of the milk vendors whose consciences are not so elastic that the swindling practices of some of the *colossi* of the milk trade should be rendered impossible.



## PRURIENCY IN JOURNALISM.

The *British Medical Journal* in its last issue begins another *exposé* of what it calls the "scandals of massage." Its screed upon this question a few months ago, it will be remembered, met with official denial; but as it was one of those suggestive subjects which catch-halfpenny gutter journals seize on with gusto the so-called revelations were dealt with in the daily press *ad nauseum*. They were hawked in the public thoroughfares in the manner in which, a few years ago, filthy rags of the *Town Talk* class were thrust under the noses of pedestrians. It is to be regretted for the dignity of journalism that the past year has seen a great increase in the number of journals that stoop to publish prurient rot.

The papers which would seek advertisement by filling their columns with filth under the guise of regard for public morality were only three or four throughout the length and breadth of England from the time when the gross indecency of *Town Talk* caused its suppression until that nauseating associate of the Mattei quack nostrum swindlers, Mr. W. T. Stead, poured forth his flood of immorality upon the public in the *Pall Mall Gazette*. It is a curious study, this, of the fascination that pruriency has for the minds of the most professing of the "unco guid." Mr. Stead, for example, at the Queen's Hall, Langham Place, before an audience of presumably decent, healthy-minded men and women delivered himself as follows: "Virtuous women regarded their fallen sisters as a question not of virtue entirely, but largely of economics. Social usage had practically fixed what might be called the trade union price of a woman's person. It was marriage, and a prostitute or woman of light character was a blackleg. She undercut the market, and this was why pure women hated her"—and there was not manliness enough present to kick the filthy charlatan from the platform he disgraced.

It is because we think that the purveying of suggestiveness might well be left to disreputable journalists such as Mr. W. T. Stead that we regret to see the *British Medical Journal* again striving to galvanise into life what it calls "the scandals of massage."

Even assuming that the *British Medical Journal* is able to prove that what it suggests is practised in these so-called massage establishments, there is not a shred of justification for placing before the public a further mass of suggestive details as to the practices alleged to be carried on in these places. At the most there could only be a handful of such establishments, and no one could pretend that an *exposé* of them could have any effect of a useful kind. The Misses "W. and Z.," and "Madame X.," "Nurse Dollie and Nurse Kitties," and the rest, if they did not carry on their calling in these so-called massage establishments would do so in others of a more private kind, possibly without the sanitary conditions to be derived from the present provision of baths, etc. If it be a fact that these establishments exist, and that they are very profitable to those running them, the *British Medical Journal's* revelations of the so-called scandals are much more likely to lead to a considerable increase of the massage houses than to abolish them. In any case, the subject, in addition to being a dirty one, is hardly worthy of the *British Medical Journal*, and we shall be surprised if this pruriency-cum-morality does not disgust a great many readers of the paper. What with Mrs. Ormiston Chant, Madame Sarah Grand, with her ignorant and disgusting "Heavenly Twins," and Mr. Hall Caine's long-winded and lascivious "Manxman," the press and so-called literature are already far too much given up to rot. The *British Medical Journal* ought, out of its regard to its position, and the class it represents and of which it is the organ, to spare us from further contributions of that character.

## GILBEY'S WHISKEY PROSECUTION.

AN important case was decided at Guildford County Petty Sessions on November 3rd, Colonel Weston presiding, when Edward William Chilman, wine and spirit merchant, of Haslemere and Godalming, was summoned for selling a bottle of Irish whiskey which was not of the nature, substance, and quality demanded by the purchaser. Mr. Richard Eve prosecuted on behalf of the Surrey County Council; and Mr. Poland, Q.C., appeared on behalf of the defendant, and also to watch the case on behalf of the firm of Messrs. W. and A. Gilbey (Limited). Mr. Eve stated that the prosecution made no imputation of fraud against either defendant or Messrs. Gilbey, but they were proceeding in this case for the protection of the public. A bottle of Irish whiskey was sold to one of the council inspectors at Haslemere on August 16th, and was found on analysis to have 2½ per cent. of water over and above that contained in 25 per cent. under proof whiskey. The label on the bottle stated that the spirit was Castle U.V. Irish whiskey; that it was fine old Dublin whiskey; and that the strength was 25 under proof by distillation when bottled.—Frederick Cliffe, inspector under the Food and Drugs Act to the Surrey County Council, proved the purchase of the whiskey.—Dr. Stevenson stated that he opened the bottle and analysed a sample of its contents, and found that it was 27½ per cent. under proof.—In cross-examination witness said he did not think the whiskey would lose its strength to the extent of 2½ per cent. after bottling. The evaporation in bottles was very slight. He was of opinion that the whiskey in question was not 25 per cent. under proof when bottled. The difference between 25 per cent. under proof and 27½ per cent. would mean that 100 bottles of proof spirit at 25 per cent. under proof would make exactly 103 bottles of the stuff he analysed.—Re-examined by Mr. Eve:—Is fine old Dublin whiskey likely to evaporate very much in a bottle of that kind?—Witness: I should say not.—Mr. Eve:—Would it, in your opinion, evaporate to anything like the extent of 2½ per cent. in a bottle of this kind?—Witness: No.—Mr. Eve.—The corks are said to be "our patent corks" and all the rest of it?—Witness: It was a good cork.—Mr. Poland argued at some length that the defendant was not liable. He submitted that the label on the bottle was a sufficient warranty from Messrs. Gilbey, and stated that in addition to that his client in 1891 received from Messrs. Gilbey a document stating that, "We hereby give you our written guarantee under the above Act (Food and Drugs Act, 1875), that the quality, strength, and measure of all our brands are strictly in accordance with the description given on the labels of each bottle we supply." It was an extraordinary state of things that that was the first time in all the years that Messrs. Gilbey had been in business that that question had been raised, with one exception, which occurred in 1883, when an appeal was tried at the King's Lynn quarter sessions by the Recorder, Mr. Douglas Brown, Q.C. The offence there charged was that of selling a bottle of Scotch whiskey at 3s. as proof, which on analysis was 4.45 below proof. The learned Recorder in that case quashed the conviction on the ground that the label on the bottle amounted to Messrs. Gilbey's warranty, and that the retailer was not liable. Mr. Poland referred to other cases of adulteration, such as lard, cocoa, milk, and gin. He pointed out that there might be a difference between Sykes's hydrometer test used by Messrs. Gilbey for Revenue purposes and the more accurate distillation process used by Dr. Stevenson, and said the Government did not interfere if there was 1 per cent. over proof or 2 per cent. under proof, it being such a small matter which might arise from exceptional circumstances. The difference to the purchaser between 25 per cent. and 27½ per cent. under proof was only about one halfpenny. So far as Messrs. Gilbey were concerned they would make the label on bottles of that strength of whiskey more like other labels, so that their customers would run no peril in future.—Defendant, his manager, Mr. Appleford, and Mrs. Appleford were examined, and they stated that the whiskey was sold exactly as it was received from Messrs. Gilbey.—Mr. Eve, on the question of law, submitted that the label on the bottle, which stated that the spirit was 25 per cent. under proof "when bottled," was not a sufficient warranty as to the nature, substance, and quality when afterwards disposed of to customers, nor was a document issued in 1891 a warranty which would extend for all time.—The Bench consulted together in private, and on returning into court the chairman announced that they had come to the conclusion that defendant had proved to their satisfaction that he purchased the whiskey of the nature, substance, and quality demanded by the prosecutor, and that he had a written warranty to that effect; and that he had no reason to believe at the time he sold the article that it was otherwise—that he sold it in the same state in which he purchased it. Therefore the summons would be dismissed. There would be no order as to costs.

## GETTING AT THE FARMER.

GEORGE A. WHITTAKER, farmer, Bank Farm, Crewe, was summoned at Manchester, on October 31st, for consigning to Horace W. Glover, milk dealer, Chester-street, on September 28th, a quantity of milk which, upon being analysed, was found to contain 34 per cent. of added water.—The defendant, who did not appear, was fined £10 and costs in two cases.



## ADULTERATION IN BIRMINGHAM.

THE following is a list of the articles analysed during the past three months by Dr. Alfred Hill, public analyst: Milk, 38 samples; bread, 36; ale, 24; sugar confectionery, 24; pepper, 17; flour, 12; oatmeal, 12; vinegar, 12; butter, 11; coffee, 7; mustard, 6; ground ginger, 5; tincture of rhubarb, 5; linseed meal, 5; precipitated sulphur, 4; sal volatile, 4; tincture of senna, 3; bees-wax, 3; lard, 3; sugar, 3; flowers of sulphur, 1; total 235 samples.

Ten of the samples of milk were adulterated, four containing an excess of water, five being deficient in fat, and one being below the standard for pure cow's milk in both these respects. One sample sold as butter was really margarine containing 80 per cent. of fats not found in genuine butter. Two of the samples of coffee were mixtures of that substance with chicory; in one of them the chicory formed 50 per cent. of the whole. One sample sold as demerara sugar consisted of white crystals dyed to resemble the real article. Eleven samples of ale contained an amount of salt in excess of the maximum quantity approved by the Excise authorities, which is 50 grains per gallon. One tincture of rhubarb and one tincture of senna did not contain the proper quantity of solid ingredients, and another sample of tincture of senna was deficient of 18 per cent of proof spirit. A sample of precipitated sulphur was adulterated with 57 per cent. of sulphate of lime. All the other samples analysed were pure or nearly so. It is worthy of note that all the samples of bread, flour, and oatmeal—staple articles of food—were genuine. The committee cautioned the vendors of several adulterated articles, and summoned ten others. All the latter were convicted, and the fines imposed amounted to £8 16s., and the costs to £4 12s.

## RAILWAY REFRESHMENT-ROOM SPIRITS.

AT Whitechurch, on October 19th, Mary Ellen Burgess, Fox and Goose Hotel, Whitechurch, was summoned for supplying Sergeant Evason with adulterated gin. There was a further charge of supplying the same officer with adulterated whiskey.—Sergeant Evason stated that he visited the refreshment-room at Whitechurch railway station on August 29th, and purchased a pint of gin and a pint of whiskey, paying 2s. 6d. for each. After purchasing, he told Mr. William Burgess, who supplied the whiskey and gin, that he was going to send the same to Mr. Blunt, the county analyst, for analysis. Mr. Blunt's certificate was read, and it was to the effect that the gin contained 61·6 per cent. of spirit and 38·4 per cent. of water. It was 38½ below proof, the minimum allowed being 33 per cent. The report showed that in the case of the whiskey it contained 72·2 per cent. of spirit and 27·8 of water, the regulation being 28 below proof and the minimum 25 below. Mr. F. W. Williams, who defended, stated that Mrs. Burgess paid 18s. 6d. per gallon for the spirits, and the adulteration had been quite unintentional.—A fine of 6d. and costs in each case was imposed.

## EDINBURGH TOWN COUNCIL FIND SOMERSET HOUSE ENCOURAGES ADULTERATION.

MR. KINLOCH ANDERSON called attention to a report by the city analyst, which appeared in the minutes, on the adulteration of certain samples of milk. Out of ten samples four were adulterated—one had a deficiency of fatty matter by the removal of cream, one was adulterated by water, and two with borax. He asked if any prosecution had followed.—Mr. Pollard, convener of the Health Committee, said that the two cases of adulteration by borax were so slight that they did not warrant a prosecution.—The Lord Provost: What about the removal of the cream?—Mr. Pollard said he had not inquired.—The Lord Provost said that milk prosecutions were very difficult, as the standard of Somerset House was low.—In reply to Mr. Cranston, the Lord Provost said that the borax would be put in to make the milk keep. Principal Williams said that a small quantity of borax added to milk during the recent muggy weather was quite justifiable under the circumstances.—Bailie McDonald said he hoped it was not to go out that they looked upon the mixing of milk with water as a thing to be tolerated in the smallest degree.

## A £20 FINE FOR A SHILLING FOWL.

EDWARD CATER, carrying on business at 254, Southwark-park-road, and at several other addresses in Bermondsey, appeared to a summons taken out by Chief Inspector Henry Thomas, the sanitary inspector to the Bermondsey Vestry, charging him with having exposed for sale a fowl which was unfit for human food.—Mr. Ricketts, solicitor, defended.—It appeared from the evidence that on September 21st, Mr. Thomas saw a fowl exposed for sale outside the defendant's shop. Upon examination it was found that the fowl was rapidly becoming decomposed. It smelt horribly, and was in such a condition as to be a danger to health. The fowl was brought to the Court, and was condemned.—Mr. Ricketts said the condition of the fowl was not so bad as described by the inspector. In fact, it was in such a condition that the "cooking would take it off," besides which the weather was responsible for the rapid decomposition.—Mr. Thomas proved a previous conviction against the defendant, when he was fined £10 for a similar offence. Since that conviction a large number of rabbits had been discovered on his premises, but the defendant agreed to destroy them, and the vestry decided not to proceed against him.—Mr. Slade fined the defendant £20 and costs.—The money was paid.

## MALT VINEGAR PROSECUTION.

## IMPORTANT POINT AS TO SAMPLES.

IN the Glasgow Sheriff-court before Mr. Sheriff Birnie, Peter McIntyre, 69, Stevenson-street, Calton, Glasgow, was charged, at the instance of Peter Fyfe, sanitary inspector, with having on Wednesday, September 5th, 1894, sold to Matthew Kerr, a sanitary inspector for and on behalf of the said Peter Fyfe, one bottle of malt vinegar which was not of the nature, substance, and quality demanded, in respect that it consisted of dilute acetic acid flavoured with about 5 per cent. of malt vinegar. Mr. John Lindsay, assistant clerk of police, prosecuted, and Mr. William Barrie, of Messrs. Kerr and Barrie, writers, appeared for the defendant. Mr. Barrie asked that the charge should be made more specific by stating whether the acetic acid was made from wood or other deleterious substance. Mr. Lindsay in answer stated that, while maintaining that the charge as served upon the defendant was sufficiently explicit, he was not prepared to accede to Mr. Barrie's request by stating from what substance the acetic acid complained of was made, but that he was prepared to state that the acetic acid was not derived from malt or unmalted grain, and the Court accepted his suggestion and allowed him to amend the charge to that extent. Thereon the defendant pleaded not guilty to the charge. Mr. Barrie stated that he represented the manufacturers of the vinegar which was sold, who were resident in Holland, and explained that the defendant at the time of the purchase had declined the offer of the sanitary inspector to receive one-third of the contents of the bottle sold, and that this refusal had taken place through ignorance on the part of the seller. He now asked the Sheriff to allow him to get a portion of the contents of the bottle which had been retained by the analyst and the sanitary inspector and produced in court. After considerable discussion as to whether the Sheriff had power to accede to the request made, and as to whether the sample retained was not exclusively intended for the use of the Somerset House authorities in case it should require to be sent there, the Sheriff said that he thought the request was reasonable, so as to enable the manufacturers to obtain independent analytical evidence as to the vinegar in question, and he pointed out that the proposal of the defendant was not prohibited by the Act of Parliament. Mr. Lindsay, for the prosecution, stated that he could not consent to the proposal of the defendant in respect that in his view the sample retained was dedicated for use by the Somerset House authorities, and that the defendant with whom he had alone to deal had brought about the difficulty in question by his declaration to accept the part offered him at the time of sale, and was therefore not entitled at this stage to jeopardise the chances of the prosecution by an interference with a part of the purchase retained in terms of the Act of Parliament for a special purpose. He also observed that while it was true, as his Lordship had pointed out, that the defendant's proposal was not expressly prohibited by the Act of Parliament, neither was that proposal authorised. The Sheriff at the close of the debate stated that, with the approval of the public analyst as to the question of the quantity of vinegar that might be required by Somerset House authorities, he proposed to authorise the analyst to take from the sample in process, which contained one-half of the purchase, a quantity for the use of the defendants, leaving, however, in the bottle, an amount equal to one-third of the original purchase, so that that one-third might be available, if need be, for the Somerset House authorities, and he issued an order accordingly. Mr. Lindsay thereon asked his Lordship to send the portion of vinegar that would be left in the bottle, namely, one-third, to Somerset House authorities for analysis, but the Sheriff refused *in hoc statu* to grant the motion. The case was thereon adjourned for trial until the 20th proximo at half-past ten o'clock.

## LINDSEY COUNTY COUNCIL AND ADULTERATION.

DR. MUTER, stated that 44 samples had been analysed, and three were not genuine. There had been prosecutions in two cases. Inspectors Bailey, of Caistor, and Burton, of Market Rasen, were appointed inspectors under the Food and Drugs Act.

## ADULTERATION IN SPALDING.

THE report of the Spalding analyst under the Food and Drugs Act, 1875 (Mr. C. H. Southwell, Ph.C., F.R.M.S., Boston), showed that during the quarter ending September 29th last, seven samples had been analysed. Three of these (gin, whiskey, and peppermint lozenges) were unadulterated. One sample of peppermint lozenges was adulterated with not less than 10 per cent. of raw potato starch; one sample of pressed yeast was adulterated with not less than 12 per cent. of starch; one sample of whiskey with water and reduced to 28·24 degrees under proof; and one of gin with water and reduced to 38·58 degrees under proof.—Superintendent Osborn was appointed inspector for the Hundred of Elloe, under the above Act, in place of Superintendent Jarvis, who has retired.

## MILK ADULTERATED WITH 30 PER CENT. OF WATER.

WILLIAM MARSHALL was summoned at Worcester by Mr. Pacy, sanitary inspector, for milk adulterated with water to the extent of 10 per cent. Witness admitted that he had since taken a sample of milk from Mrs. Harris, of the Moat Farm, who supplied defendant, and it was found to be adulterated to the extent of 30 per cent. Dr. Swete stated that the extent of the adulteration of the milk was undoubtedly greater than he had stated, as he had calculated it, as he was obliged to, from the lowest standard. The Bench fined defendant £2 and costs, £3 3s. 6d. in all.



### IMPORTANT LARD CASE AT CAERPHILLY.

At the Caerphilly police-court on October 30th, George Everson, grocer, Ystradmynych, was charged under the Food and Drugs Act, for selling impure lard.—Mr. Arthur Lewis, barrister-at-law, Cardiff, instructed by Mr. E. R. Allen, appeared for Superintendent E. Jones, D.C.C., and Mr. Mullholland; instructed by Messrs. Ayrton, Radcliffe and Wright, Liverpool, appeared for the defendant.—Dr. W. Morgan, county analyst, and Mr. Otto Hehner, analyst, were present in court.—Mr. Arthur Lewis, in his opening remarks, gave the facts of the case, and then called upon Superintendent Jones, D.C.C., who stated that on May 29th he visited the shop of defendant and purchased a  $\frac{1}{4}$  lb. of lard, for which he paid twopence. He offered to divide the sample and leave a portion with the defendant, and he said he did not require it. He sealed the sample in the presence of defendant, and on the same day sent it to Dr. Morgan, the county analyst. He told the defendant that it was for analysis. Defendant said he did not want it divided.—On the 12th June he received a certificate from Dr. Morgan, and in consequence of that he laid the information upon which that case was founded. He had often bought lard before, and paid 6 $\frac{1}{2}$ d. and 7d. per pound for pure lard. Cross-examined by Mr. Mullholland: The lard was served from a slab. The sample was returned with the certificate. He produced the sample which he got back from the analyst.—Sergeant Brinson said on June 14th he served the defendant with a summons. He explained the contents of the summons, and the defendant said, "I'm right, I have got a warranty." Witness asked him if he showed that to Superintendent Jones, and he said "No, I have only had it for nine or ten days." He also said he had sold it pure, the same as he received it, and sold to everyone else.—Dr. W. Morgan, Swansea, said on May 30th he received the sample of lard from Superintendent Jones. He analysed it, and the certificate produced was his certificate. The lard contained 91 per cent. pure lard and 9 per cent. beef stearine. He sent a portion of the lard back with the certificate and retained the other portion. He sent the portion he retained to Mr. Hehner.—Cross-examined by Mr. Mullholland: He could not tell the exact date on which he divided the lard. It was during the analysis. He took bits from the residuum as required. During that time it was in his laboratory and every care was taken of the sample. He determined the analysis by the result seen under the microscope. Lard stearine showed flat crystals cut on the slant, and beef stearine crystals were very fine pointed. He decided by the general character of the plumes. He used a  $\frac{1}{4}$ -inch microscope. He first used a low power and then a high power microscope. He found the melting point was 43. He relied upon the microscopic appearances. He made a comparative test with a mixture of 10 per cent., and if the results were the same he arrived at the results.—Re-examined by Mr. Arthur Lewis: He had applied two tests to the sample. One test under the microscope and also a quantitative test to find the weight. Nine per cent. understated the quantity of beef stearine. He did not use the iodine absorption test. Witness had no doubt at all but that the sample contained 9 per cent. of beef stearine.—Mr. Otto Hehner said he received a sample of lard. He analysed it and found it to contain lard and beef stearine. Mr. Hehner explained the difference between the crystals of lard stearine and beef stearine. He produced several photographic views of the crystals as they appeared under the microscope. Beef stearine added to lard made it stiffer. He had not the slightest doubt that the lard contained a substantial quantity of beef stearine. It was almost impossible to find out the exact amount of beef stearine. He believed 9 per cent. to be a fair estimate.—Cross-examined by Mr. Mullholland: The quantity of stearine was an estimate. He did not know whose lard it was.—That completed the case for the prosecution.—Mr. Mullholland addressed the Bench and said he was placed in a difficulty. He was instructed by the supposed makers of the lard. Mr. Everson purchased a large quantity of

lard from Messrs. Bancroft. He got an invoice from them on February 13th. When the superintendent came there Everson was foolish enough not to accept a sample. He went to Messrs. Bancroft and said it was their lard; they said, "If it is our lard we will come down and defend you." They said, "Where is your sample?" Everson replied, "I have not got it; there are your tubs and this is the same lard." They analysed the lard, and their results would in no way bear out what the eminent gentlemen for the prosecution gave as theirs. Indeed, were they talking about the same lard at all? He was bound to lay the whole case before the court. Did Mr. Everson make a mistake in saying that he had sold Messrs. Bancroft's lard? The officer said that defendant told him that he only had a warranty nine or ten days before. Now that could not be as regarded Bancroft's lard, because he had their warranty on February 13th. Everson might have made a mistake. If Mr. Everson had sold Bancroft's lard he was prepared to say it was pure. Mr. Hehner in his evidence was perfectly candid, and said that as far as he knew it was not a sample of Bancroft's lard. He could not prevent Mr. Everson going into the box, but at the same time he would say that the lard was a sample which might have been obtained from another tub. He asked the Bench to say whether Mr. Everson was correct in saying that it was Bancroft's lard.—Mr. Arthur Lewis: We are not trying the goodness or badness of Bancroft's lard. And even after that case Bancroft's lard could go forth to the public in all its pristine beauty. They were trying Everson's lard. The defendant had refused to accept a portion of the lard when offered by the superintendent.—Mr. Everson, the defendant, said he heard the evidence of Sergeant Brinson. He told him that the lard was invoiced to him as pure lard. He did not think it was necessary to tell Superintendent Jones when he came that he had a warranty. He did not tell Sergeant Brinson that "he only obtained a warranty ten days ago." He told Brinson it was Bancroft's lard. He got lard from Belfast sometimes, but did not have any warranty with that. He bought the lard from Bancroft as pure lard. Messrs. Bancroft's invoice was the warranty.—Cross-examined by Mr. Arthur Lewis: The reason he did not take a portion of the lard was because he had bought it as pure lard and thought it was not necessary. He got lard from 101 places; he got it from anywhere.—The magistrates retired, and on their returning to court stated that the adulteration was proved, and fined the defendant 5s. and costs.—Mr. Arthur Lewis said the costs in this case were not less than £50, because they had been obliged to bring expert evidence from London. The county were obliged to take up the matter, and if an order was not made the county would have to pay the costs.—Mr. Mullholland said the only thing was that the county was rich and Mr. Everson poor.—The Bench decided to order Mr. Everson to pay £12 12s. costs. The defence brought six scientists to prove the lard genuine, but their evidence was ruled out of order on an objection, that they had not analysed the lard taken by the Inspector. Their evidence would have proved beyond dispute that it was not Bancroft's lard.

### MILK ADULTERATION IN EDINBURGH.

ATTENTION was called at a meeting of the Edinburgh Town Council last week to a report by the city analyst on the adulteration of certain samples of milk. Out of 10 samples four were adulterated—one of a deficiency of fatty matter in the removal of cream, one by adulteration by water, and two by adulteration with borax. It was asked if any prosecution had followed.—Mr. Pollard, convener of the Health Committee, said that the two cases of adulteration by borax were so slight that they did not warrant a prosecution.—The Lord Provost said that milk prosecutions were very difficult as the standard of the London analyst was low.—Principal Williams said that a small quantity of borax added to milk during the recent muggy weather was quite justifiable under the circumstances.

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## MARGARINE AS BUTTER.

AT Rotherham Borough police-court, on November 1st, John Patrick, provision dealer, of Effingham-street, was fined 20s. and costs for having exposed for sale, by retail, margarine which was not labelled as required by the 6th section of the Margarine Act, 1887. On September 28th Assistant-inspector Mr. C. E. Parkin, jun., visited the shop, and saw a substance on the counter marked 6d. He asked for a pound of butter, and a pound of the stuff was supplied. When told a sample was intended for analysis, the assistant said, "We are done." The analyst's report was to the effect that the sample consisted of little or no real butter at all.—The defence was that the margarine label had fallen off just before the inspector entered the shop.—Ann Mason, or Merriman, of Sheffield-road, was summoned for a similar offence, also on the 28th September. Mr. Parkin, jun., bought a pound of "butter," paying 1s. for it, but the sample on analysis showed 40 parts butter and 60 parts margarine. The town clerk, who prosecuted, stated that the defendant, in addition to carrying on the shop, was the owner of a model lodging-house. Her customers included some of her lodgers. The defendant now pleaded that she did not know she had any margarine on the premises. She had bought the stuff for butter. The chief constable stated that Mrs. Mason had been previously fined for selling adulterated coffee. The Bench now ordered the defendant to pay a penalty of £3 and costs.

At Wolverhampton, on October 31st, Thomas John Owens, grocer, 260, Coleman-street, Whitmore Reans, Wolverhampton, was fined £5 and costs for exposing a parcel of margarine without a label. Mr. Allwood, the food and drugs inspector, who proved the case, said he found the defendant selling margarine which contained only 6 per cent. of butter.

In Dundee Sheriff Court, on October 30th, before Sheriff Campbell Smith, Theresa M'Luskey, purveyor of milk, Scouringburn, Dundee, being also a retail dealer in margarine, was charged with having, on September 28th, exposed margarine for sale without having attached to the cask or parcel a label marked "Margarine." She was further charged with having sold by retail to George Beveridge, sanitary inspector, Blackness-road, Dundee, without the package having been properly marked. She pleaded not guilty. From evidence it appeared that before eleven o'clock in the forenoon two officers of the Sanitary Department went into the shop and bought a pound of margarine from the accused, who, before the sale, explained that she was "out of" margarine wrappers, but more had been ordered. For the defence, it was attempted to be shown that the usual ticket had fallen or been knocked down from the cask. Mr. Agnew said this was the first prosecution under the Margarine Act, 1887. It had been undertaken because it was found that a considerable number of grocers had been entirely ignoring its provisions. The present case was not so serious as some others of which his Lordship would yet hear more. Mr. William Kilgour, on behalf of the accused, said the sanitary officials might have taken one of the more serious cases alluded to rather than a small purveyor of milk in Scouringburn. The Sheriff found that there had been a technical breach of the Act, but he was not satisfied that there had been any fraudulent intention. He thought in selecting the person to be made an example of for the first time more humanity might have been shown than in taking a young woman who was trying to make a livelihood with a small shop. He imposed a fine of 5s., with the alternative of 24 hours' imprisonment. William Bruce, grocer and spirit merchant, Blackcroft, pleaded guilty to similar charges, explaining that the shop had just been opened, and he had not had time to obtain the necessary labels. The Sheriff sentenced him to pay 7s. 6d. or go 24 hours to prison.

At Birmingham police-court, Harry Gibbs, provision dealer, of Soho-road, was charged on four summonses with having sold adulterated butter.—Inspector Davis said that he sent a woman to purchase two three-quarter pounds of 10d. butter from a branch shop belonging to the defendant in Icknield-street. The shop assistant served the woman, and witness returned with the purchases into the shop and told the assistant they would be submitted for analysis. He then divided them up, and gave a portion to the assistant. The certificate from the analyst showed that each sample of butter purchased contained 70 per cent. of foreign fat. On the same day the inspector sent the woman into another shop of defendant's, in Monument-road, and she purchased two pieces of butter. The assistant was afterwards told they were for analysis, and accepted samples. The certificate showed that the two purchases contained 100 and 70 per cent. of foreign fat respectively. Mr. Bickley, who defended, submitted that defendant was most anxious to carry on his business properly, and had impressed upon his assistants the necessity of exercising proper care in the business. He was exceedingly sorry that the assistants should have been so negligent. The magistrates said defendant was responsible for his assistant. It was a gross fraud on the public, and he would be fined 20s. and costs on each summons.—George Thatcher, Ashted-row, was fined 10s. and costs for selling butter containing 25 per cent. of foreign fat. The defendant left his shop temporarily in charge of an assistant, who gave evidence to the effect that he made a mistake in serving the customer.—Henry Smith, milk-seller, Lancaster-street, was fined 10s. and costs for selling milk deficient of 20 per cent. of natural fat.

## DISPUTED BUTTER ADULTERATION CASE.

AT the Shire Hall, Nottingham, on October 31st, before Mr. W. F. Webb (in the chair), Capt. Holden, Ald. S. H. Sands, Mr. R. B. Webb, and Mr. A. G. A. Martin. Charles Smith, shopkeeper, of Newthorpe, was summoned for selling adulterated butter, on the 10th ult.—Mr. J. Johnson defended.—Col. W. F. Story stated that in his capacity as inspector under the Weights and Measures Act he sent the daughter of a police officer to defendant's shop to purchase half a pound of butter. He waited outside the shop, and on receiving the butter from the girl he went into the shop and informed defendant that he wanted the sample for purposes of analysis. He then divided the sample into three parts, sealed each part, and left one sample with the defendant. Another of the parts he sent to the public analyst, who reported that he had examined the butter in question, and found it contained 85 per cent. of butter and 15 per cent. of margarine. Defendant told him he purchased the butter from a local farmer.—Charles Smith, on oath, stated that he had been in business at Newthorpe for many years. He obtained his butter regularly from Mr. Wakefield, a local farmer. On September 7th he bought three half-pounds of butter. He had no butter from anyone other than Mr. Wakefield that week. He offered it for sale at 1s. 5d. per lb., believing it to be pure butter. He had never had any margarine on his premises, and he was totally ignorant as to the method of mixing margarine with butter.—Henry Wakefield, farmer, said he had supplied defendant with butter for some years past. On September 7th he supplied him with three half-pounds of pure butter. He had never sold mixed butter to Mr. Smith.—Mary Elizabeth Pridmore, housekeeper to the previous witness, said she had the sole management of the dairy, and she made the butter supplied to defendant on the 7th ult. It was pure butter.—Mr. Coleman, senior demonstrator in chemistry at the Nottingham University College, said he had a sample of butter sent to him for analysis on behalf of Mr. Smith. The sample was sealed with the County Council seal, and had not been tampered with. He analysed it, but found no trace of margarine, and his results were confirmed by the borough analyst.—On the application of Mr. Johnson, the Bench adjourned the case to enable the third sample to be sent to Somerset House for analysis.

## RABBITS FIT FOR THE PRINCE OF WALES.

PATRICK SULLIVAN, provision merchant, of 170, Caledonian-road, was summoned at the Clerkenwell police-court, on October 30th, at the instance of the Islington Vestry, for exposing for sale several rabbits and two pieces of bacon which were un-sound, unwholesome, and unfit for human consumption. Mr. MacMoran, counsel, appeared for the Vestry; and Mr. Ricketts, solicitor, represented the defendant.—Sanitary-inspector Hillyard said he went to the defendant's shop in the Caledonian-road on Saturday evening, October 13th. He saw on the benches outside the shop a quantity of chopped rabbits, intermingled with pieces of bacon. There was a ticket upon them, marked with a figure 4. Witness spoke to an assistant, who told him that the price of the pieces was 4d. a pound. The meat was in a putrid condition. There was also some other chopped meat exposed for sale, which was putrid. Witness further stated that he saw hanging in the shop two rabbits, with the figure 3 upon them. He examined them, and found they smelt very badly. He dropped them, with the remark, "this is too bad, these are completely rotten;" and the assistant in the shop replied, "they would not be so bad if they were cooked." Witness searched the shop, and found three other rabbits which were putrid. There were other rabbits exposed for sale which were perfectly sound. Witness seized the rabbits, and also two pieces of bacon which were unsound, and the next morning they were condemned by Mr. Williams, a Justice of the Peace.—Dr. Harris, Medical Officer of Health for the parish of Islington, said he examined the rabbits and bacon seized, and was of opinion that they were not fit for human consumption. The eating of the rabbits might produce diarrhoea or blood poisoning. For the defence, it was contended that the rabbits were not in such a bad state as the Vestry officials endeavoured to make out. The rabbits seized were part of a consignment of Ostend rabbits which arrived the previous morning. If washed in salt water and cooked the same evening the rabbits would be perfectly fit for food; "fit," defendant remarked, "to be placed before the Prince of Wales."—Mr. Horace Smith inflicted a fine of £9, and costs.

## EXCESS WATER IN BUTTER.

AT Castle Island Petty Sessions, two prosecutions were brought at the suit of the local inspector, Sergeant Shee, under the Food and Drugs Act. In the first case, against a farmer named Patrick Warren, of Headford, the sergeant stated that the analyst certified that the butter contained 20.7 per cent. of water. Mr. B. Horgan, solicitor, who appeared for the defendant, said in the Manchester case 22 per cent. was allowed, and lately in cases heard in Cork the magistrates decided upon not imposing a penalty where the percentage of water did not exceed 20 per cent. Mr. R. Roche said from his experience he did not consider it necessary to have 20 per cent. of water in any butter, and in imposing a fine of 20s. in the case he considered the magistrates were dealing very leniently with the defendant. In the second case, brought against John Herliby, of Ballynapierce, the analysis of the butter showed that it contained 19.64 per cent. of water. A fine of 10s. was imposed.



### ADULTERATION AT HASTINGS.

THE report of the public analyst (Mr. H. F. Cheshire) upon the articles analysed by him during the quarter ending September 30th, states that the articles submitted for analysis were one of butter, two of whiskey, and six of milk. They were all found to be genuine. Mr. Cheshire expresses regret that the law is not yet in a more satisfactory condition as regards culpable poorness of such articles as milk.

### SEIZURE OF DISEASED MEAT IN ABERDEEN.

AT the Aberdeen Police-court, on the 29th ult., Mr. Kenneth Cameron, sanitary inspector, presented a petition that a quantity of beef belonging to Stephen Mathieson, Gallowgate, should be destroyed, it being unfit for human food. Mr. Cameron stated that between 10 and 11 p.m. on Saturday week he went to Mathieson's shop, and examined seven pieces of beef weighing about 100lb., and several small pieces of beef weighing about 5lb. or 6lbs. The meat, he considered, was intended for human food, and was quite unfit for such a purpose. It was part evidently of a diseased animal. Mr. Carnie, assistant-inspector, said the meat was dropsical and watery between the muscles. Mathieson asked if it was not the case that all animals were watery at the muscles of the "round." Mr. Carnie said that was so, but not so much as in the present case. Dr. Matthew Hay said the beef was soft and watery, and there was a considerable effusion of blood between the muscles, and it was quite unfit for human food. A warrant was granted for the destruction of the beef.

### HEAVY PENALTY FOR ADULTERATING MILK AT HALIFAX.

AT the Borough court, on October 30th, John Clegg pleaded guilty to a charge of selling adulterated milk. Mr. James Archbell, an inspector under the Food and Drugs Act, stated that he saw defendant mix milk with water taken from a can in his cart and then serve his customers. A sample was obtained for analysis, and it was found that 12 per cent. of water had been added. Defendant said they were obliged to do something these hard times to make ends meet. The Bench imposed a penalty of £10 and costs.

### ADULTERATION IN NOTTINGHAM.

THE county analyst reports that during the past quarter he has analysed 45 samples under the Food and Drugs Act, as follows:—Whiskey, eight; gin, five; milk, twelve; cheese, four; butter, six; tea, two; pepper, two; malt vinegar, two; spirits of sweet nitre, two; lard, one; and coffee, one. Four of the samples of whiskey were of less alcoholic strength than was allowed by the Act, and five samples of gin were watered beyond the legal limit. Of the twelve samples of milk only one was watered, one of the samples of butter was found to contain margarine, the sample being a mixture of 15 parts of margarine and 85 parts of butter. The whole of the rest of the samples were genuine. Of the 45 samples, therefore, 10 were adulterated, bringing the percentage of adulterated samples to 22·2 during the quarter. Convictions were obtained in six cases, and several had yet to be heard.

### SODA WATER WITHOUT SODA.

AT Edinburgh, on November 2nd, W. G. Johnstone, chemist, was charged with a contravention of the Food and Drugs Act by selling to the inspector as soda water three bottles of carbonated water, which contained no bicarbonate of soda, and other three bottles as potash water, which contained no bicarbonate of potash. Mr. W. Thomson, solicitor, tendered a plea of guilty on his behalf, accompanied with the explanation, in regard to the first charge, that this was the beverage usually sold as soda water, and that prepared as prescribed in the British Pharmacopœia it would contain so much alkali as to be not only disagreeable to taste but injurious when employed as a beverage. With regard to the potash water, he stated that soda water had been given instead through the fault of an apprentice. A penalty of £2 and a guinea expenses was imposed.

### THE WATER AT WHISKEY PRICE GAME.

AT Eastern Ainsty Petty Sessions, John Gretton, innkeeper, Britannia Inn, Acomb, was summoned by Henry Gamble, food and drug inspector, Harrogate, for selling rum 51 degrees under proof, and Scotch whiskey 41 degrees under proof. The Bench inflicted a fine of 1s., with costs of hearing, and costs of analysis. —John Braithwaite, Red Lion Inn, Knapton, was also summoned for having sold Scotch whiskey 41 degrees under proof. The defendant admitted the offence, and said that he bought it of a

wine and spirit merchant as being proof. He tested it and found it 17 under proof. He went to the spirit merchant, who said it was only 1½ under proof, and when he knew the result of the analysis he said the spirit must have been tampered with. Defendant said it had not been tampered with after it came into his possession. When he found it was 17 under proof he put sufficient water to reduce it to 25 as he was allowed to do. They put a quarter of a pint of water to a pint of spirit. The Bench inflicted a fine of £1, with the costs, as in the previous case.

### THE THAWING OF FROZEN MEAT.

IN the *Times* of September 1st an account was given of a new process, invented by Messrs. Nelson Brothers, for thawing frozen meat in such a way as to put it on the market in a sound condition, and avoid the many objections to which the sale of the meat while still in a frozen state was open. In one respect the information then given was inadequate, inasmuch as it did not reveal the interesting secret as to how the thing was done. We are now in a position to give these additional facts, by describing the experimental chamber at Lambeth Wharf, in which the process has been carried on. The chamber is provided with double doors, one of which is extremely thick, so as to shut out, as far as possible, all external atmosphere. The chamber has no windows, but is supplied with electric light. On entering one sees only some 30 quarters of beef hanging in rows on hooks, over a slightly raised open platform, with a canvas curtain at the back. Under this platform, however, there is a series of steam pipes, while behind the curtain there is a series of pipes filled with compressed ammonia, similar to those used in connection with the ordinary freezing processes. The steam pipes under the meat cause a current of warm air to ascend all around it, and as soon as this current reaches the top of this chamber it is drawn to the freezing pipes, behind the curtain, by which all the moisture is frozen out of it on to the pipes themselves. It accumulates there in the form of snow, which, at the time of the visit of our representative, was three-quarters of an inch in thickness. The snow has to be scraped off the pipes from time to time, and it is stated that the accumulation during five days, in the thawing of 30 quarters of beef, has resulted in no fewer than 168 lb. of water. During that same period the meat itself lost only 1 per cent. in weight. The purpose of the canvas curtain is, of course, to divide the ascending warm current from the descending cold current, and it is claimed that the effect of this incessant passing of the air, first over the steam pipes and then over the freezing pipes, is eventually to free it from all moisture, and so produce that "warm, dry air" which has been aimed at all along. When the meat is first hung the temperature of the room is almost at freezing point, but the steam is turned on gradually, until on the fifth day the temperature of the chamber has been raised to that of the air outside. By that time, it is claimed, the frost has all been thawed out of the meat, which is then in a condition to be sent to market for, if need be, immediate consumption.

### WHITE WAX ADULTERATION.

AT the Wolverhampton Police-court, on the 24th ult., before Mr. N. C. A. Neville (stipendiary), Florence Emily Blakemore, chemist, trading as Messrs. Hudson and Co., King-street, Wolverhampton, was charged with selling drugs which were not of the nature, substance, and quality demanded.—Mr. G. F. Allwood, inspector under the Food and Drugs Act, stated that on July 23rd he sent an assistant into the defendant's shop, and he asked for a quarter of a pound of white wax. He was supplied with an article which was found on analysis to contain 95 per cent. of paraffin. The next day he sent a girl into the shop for beeswax, and on that being analysed it was found to contain 50 per cent. of resin and 50 per cent. of paraffin. He (Mr. Allwood) pointed out that, according to the British Pharmacopœia, the substance white wax ought to consist of yellow or beeswax bleached by exposure to the sun and moisture; and this wax, he further stated, formed one of the principal ingredients in several kinds of ointments. The defendant had been adjudicated a bankrupt since the samples had been taken.—Mr. A. Turton, who defended, said Mrs. Blakemore was in ill-health and unable to attend. Being a bankrupt she had practically nothing to live upon, and if the inspector had only called a few days afterwards the Official Receiver would have been liable.—The cases were adjourned for a week for the production of a doctor's certificate.

ADULTERATING RUM.—Herbert John Shaw, Ashbourne, was summoned for selling rum 34·5 degs. under proof. Defendant pleaded guilty. He stated that not selling rum as frequently as other spirits it evaporated. The justices fined him £1, and £1 ls. costs.

PUBLIC ANALYST FOR CO. ANTRIM.—At the Summer Assizes for this county the grand jury passed a resolution appointing Mr. J. Fred. W. Hodges, J.P., F.I.C., joint analyst with his father, Professor Hodges, M.D., analyst for the county. Mr. Hodges has also been appointed Government chemist. He is analyst under the Sale of Food and Drugs Act for the county of Armagh and the county of the town of Carrickfergus.



## CORRESPONDENCE.

## ON THE ACCOMMODATION AFFORDED FOOD AND DRUGS ACT INSPECTORS IN METROPOLITAN POLICE-COURTS, AND SOME POINTS OF IMPORTANCE RESPECTING WARRANTIES.

To the Editor of FOOD AND SANITATION.

SIR,—Inspectors of food and drugs and sanitary matters are granted but scant courtesy in the courts of the metropolis, having when in charge of cases to mostly conduct the same from the place usually occupied by defendants and persons on bail. In a warranty case heard a few days ago the inspector in charge had to sit next to a prostitute for close upon two hours, and did not know of it until the woman acknowledged the fact from the witness-box; whilst close above his head the fœtid breath of the usual police-court habitués made his nasal sensations none of the pleasantest. In addition, when one remembers that the persons usually present in police-courts do not emerge, as a rule, from salubrious localities (though not so in all cases, as many poor and clean people find themselves obliged to flee to the courts in cases of civil distress). I do not think it fair that public officers should be so treated when engaged in the discharge of duties so important. It is not to be expected that the local authority shall engage legal assistance when they have competent officers; and if legal assistance is obtained the inspector has to work up the case as a rule, so it is quite evident that if satisfactory results are to be looked for, the status of inspectors must be raised. In the courts of the county magistracy the accommodation afforded public officers in most cases is ample, courtesy and respect being given to the inspector. It is very essential that proper accommodation be afforded to the inspector in court, as, if this be not the case, he is at a great loss when referring to law books and notes. No one knows like the inspector what a trial it is to hold half-a-dozen papers in one hand, three or four books in the other, and his pencil in his teeth.

## AS TO THE WARRANTY,

in various parts various practices are followed, in some the warranty is taken in evidence, and the whole of the facts proven so that it does not require the case to be taken *de novo* at the second hearing. In others the magistrates desire a fresh hearing. The trouble entailed is enormous in the latter case, I give an actual example. A certain farmer contracts to supply a milk dealer with milk, and does so. He empowers his farmer man to sign warranties on his behalf, he employs another man to cart the milk to the station, the recipient of the milk has a man to fetch it from the station, he also has a manager to attend to and receive the warranties, he also employs a man to wash and clean out the cans, and another to sell the milk from a cart. Now, suppose that an inspector purchases from the man, and the milk is found to be adulterated, he issues a summons against the master of the man who sold the milk, and this is then dismissed upon a warranty. Now, to succeed in the case of proceedings upon a warranty, he, in a case like the above, must issue no less than eight summonses, and this is the ruling of one of the metropolitan police magistrates.

Let me enumerate the summonses he must issue :—

- 1st. The farmer as defendant.
- 2nd. The farmer's man who signed the warranty.
- 3rd. The railway guard, to prove no tampering.
- 4th. The receiver's carter " " "
- 5th. The receiver's manager " " "
- 6th. The receiver's indoor milkman, " "
- 7th. The boy in charge of cart " "
- 8th. The person selling milk as servant " "

This was really asked for in a recent case. It is enough to appal one, and it shows to a remarkable extent the blithering idiocy of the Warranty Clause in the Food and Drugs Acts. Why cannot a more simple method be adopted, whereby a milk vendor could call upon the person who supplied him to attend court and let the magistrate decide from facts presented to him, who is the guilty one. This to some extent is provided for in the Margarine Acts, a master being able to have his servant called conjointly with himself, and then may be made *at once* the defendant. The time is now ripe for the warranty dodge to be ventilated, and if a proper solution could be found would aid much in the execution of his antics.—Yours truly,

A QUILLE PENNE.

## BUTCHERS' TECHNICAL EDUCATION.

To the Editor of FOOD AND SANITATION.

SIR,—The health and well-being of the community is more or less dependent upon a sanitary and a cheap animal food supply.

The all-round ignorance of cattle-slaughters, butchers, meat, game, and poultry vendors, including the manufacturers of marvellous minced meat mysteries, is patent and proverbial.

In spite of the enormous public revenues of the United Kingdom applicable to technical education, there is not a single public institution for technically teaching and training cattle-slaughters and animal food purveyors and preservers even the most elementary principles of their trades.

Plumbers have recently received technical education and resorted to trade examination so as to become certified experts.

Similarly it is to be hoped that no cattle-slaughterer, butcher, meat, game, or poultry vendor, sausage-maker, meat preserver, and the like, will in the future be allowed to act unless he has, by approved examinations, shown an up-to-date knowledge of the principles and practice of his calling.

It is absolutely necessary that these men should know the naked eye and rough *microscopic* appearance of all forms of diseased animal food, including the recognition of bacterial and parasitic disease.

A "butcher" unable to use the microscope is an anomaly no less absurd than a sailor who has not learnt how to examine with a telescope.

No slaughterer, butcher, meat, game, or poultry vendor should be licensed unless he had previously become practically acquainted with the modern means of sterilising and preserving animal food by dry cold air, for it is extravagant and inefficient to employ ice and melting ice in their cooling rooms, which are often reeking with moisture, and thus avoidably deteriorating if not also decomposing much animal food.

These traders should also know how to thaw frozen meat in warm dry air, instead of letting it rot in damp atmospheres; and learn to preserve food by cooking and *slowly* cooling it in suitable conditions.—I am, sir, yours, etc.,

J. LAWRENCE-HAMILTON, M.R.C.S.

30, Sussex-square, Brighton.

## THE SELECT COMMITTEE ON ADULTERATION.

XVIII.

(Continued from page 352.)

Mr. JAMES LONG : Examined.

SIR WALTER FOSTER : You were formerly Professor of Dairying at the Royal Agricultural College, Cirencester?—I was.—And you are now a member of the Council and of the Margarine Committee of the Central Chamber of Agriculture?—Yes.—And you are also a member of the Council of the British Dairy Farmers' Association?—Yes.—You are aware that there is a certain report of the Margarine Committee of the Central Chamber of Agriculture which has been prepared not long since?—Yes, I am.—And you advocate the proposals contained in that report?—I do; I have the report here.—I think that there are 12 clauses in that report?—Yes.—And the first clause is that the colouring matter of margarine should be absolutely prohibited?—Yes.—On what ground would you advocate that?—I have taken that point further on in my evidence, if you would not mind my dealing with it later on.—Will you deal with every one of these points in your evidence as they crop up?—Yes.—Then I think you are in favour of having a laboratory under the Local Government Board?—The proposal that I have to make is that in connection with the Local Government Board there should be a bureau or department dealing with dairy produce, together with laboratory; that is to say, a laboratory in their department.—In substitution of the laboratory at Somerset House, do you mean?—I would propose to transfer the work done at Somerset House to this department, so far as regards dairy produce. My suggestion is derived from the experience of the Americans in their Dairy Commission and in their dairy bureaus.—Do you think that the Local Government Board would be a more appropriate place for that laboratory than the Board of Agriculture?—So far, the Local Government Board have had a great deal to do with questions of this kind. I should not object to the Board of Agriculture at all if it could be arranged to have such a bureau under them.—What I understand you to want is the establishment of a place for official analysis?—For the control of the sale of dairy produce, and for the analysis; and I also suggest that the public should be enabled to send samples to this department at fixed fees, say, for example, 2s. 6d. for milk.—So as to encourage the public to obtain analyses from time to time of the articles that they consume?—Exactly.—In what respect do you think that such an institution or laboratory would have an advantage over the present system?—I think it would be more concentrated. Referring back again to the American plan, they have in New York State, or have had, a Dairy Commission, and in Massachusetts they have a Bureau of Dairying under a commissioner who has a number of inspectors and assistant commissioners, and the business of these men is to regulate the sale of dairy produce, and to control the sale of pure goods. I shall be able to tell you presently, from what I have seen personally in the States, that they have practically driven out the sale of margarine altogether, and have enabled the public to obtain milk of a much higher standard than they ever did before.—What has the effect of that been on the price of those articles?—I could not answer that question off-hand; I do not know the price of the goods in previous years; I cannot tell you that.—You would also advocate some means of getting at the wholesale dealers, I understand?—With regard to that point, I suggest that the retailers should be prosecuted in preference, as some have suggested, to the wholesale man, because you cannot get at the wholesale man unless you get at him through the retail men. My experience is that you ought to reach the man who is supplying probably 100 other retailers with the same material, and that you would not reach him at all unless you got at him through one of his customers.—That is to say, that an adulterated sample having been obtained from the retailer, you would use that sample and



the analysis of that sample as the means of prosecuting the wholesale dealer if the retailer brought forward satisfactory evidence that he obtained the article direct and that it had not been tampered with since?—Yes; but I would go to the retailer first. If he established his innocence to the satisfaction of the court, I would then go to the wholesale man.—That would be a difficult process in many cases, would it not?—I do not think it would if the retailer established to the satisfaction of the court that he obtained those particular articles from a particular firm. If he failed to do so, he ought to be convicted, of course.—It would be very difficult for a retailer in a large way of business, would it not, to absolutely identify any such article?—I grant that; it would. That is, of course, his affair.—Then you would have lettering on packages of margarine?—The lettering on packages is already provided for by the existing Margarine Act; but I think that on paper and on smaller packages the lettering should not be less than an inch and a-half by an inch.—Then some smaller packages would be entirely covered by the lettering, would they not?—I think it would be all the better if they were. I think also that the lettering should be in black, or dark blue, and that the lettering should be thick; that should be a *sine qua non*.—Then if you came across a consignment of adulterated butter you would confiscate the whole quantity?—I would certainly.—That is to say, if in a retail shop you found a sample of adulterated butter taken from a consignment, say, of two or three hundredweights, you would confiscate the whole of the adulterated butter?—My suggestion is rather with regard to the imported produce, or consignments *en route*. This suggestion was made in the evidence given in 1887 to the Committee on the Margarine Bill of that day by Mr. Lovell, one of the largest men in the trade, who made a strong point of this very question; he thought that if consignments on the way to the retailer, or even to the wholesale man, were confiscated, the Act would have a very great effect in depreciating or discounting fraud.—To go back for a moment to the lettering, what I meant was that in very small packages letters of an inch and a-half would be so wrapped over probably as to be concealed by the folding of the paper?—But I think I have missed the point. I propose that the word “margarine” alone should be utilised.—Yes?—In the form of letters; and in my experience there is no paper used for wrapping up margarine so small that you could not print the word “margarine” in letters of that size upon it.—But it might be wrapped inside the package, and not outside?—It might be quite; that would have to be provided for.—It is to be put on the paper in which the article is wrapped?—Yes; it should be on the outside, of course.—Mr. Kearley: That is the law at the present time, is it not?—It is the law that it should be marked.—And sold in a wrapper with “margarine” upon it?—Yes, but not the word “margarine” alone.—That is the point, I see?—Yes.—Sir W. Foster: With regard to the enforcement of the provisions of the Act, what have you to say on that subject?—I should like to adopt the plan which was suggested by Dr. Bell in his evidence some years ago, namely, that the provisions of the Act should not be permissive, but that it should be compulsory upon the authorities to carry them out.—That is to say, that these Acts relating to the adulteration of food and drugs, and the Butter and Margarine Acts, should be compulsorily acted upon, that it should be compulsory upon the local authorities to enforce them?—Exactly so.—But have you any suggestions to make with reference to that proposal; how would you enforce it?—That is a point which I do not think belongs to my province. I think that is a legal matter which might be left to wiser heads than mine.—Would you propose to have inspectors from a central department whose duty it should be to see that the Acts were carried out?—I would propose that there should be inspectors, as they have in Denmark, not only to deal with places like London, but with the whole country.—So that in that way, by a system of inspection, you would really make the compulsion effective?—Yes.—With reference to samples, do you think that the form of purchase might be dropped by the inspectors of the local authorities?—I think that it might be extended so far as this, that the inspectors should be enabled to appoint any proper person whom they choose to select to take the samples, just as is done now in some of our provincial cities where the inspector appoints a woman or some unknown person to take the samples; and I think that any properly-appointed person should be enabled to take samples without the necessity of going through a form of purchase.—So as really to sample those various articles in the way of ordinary inspection?—Exactly so.—If you found a man repeatedly convicted of fraudulent adulteration, I suppose you would propose a heavier punishment than a fine?—I think after the third case had been proved against him, he should be liable to imprisonment for a fortnight upwards in accordance with what Mr. Lovell stated in evidence in 1887.—That, you think, would be more effective than any money fine?—I think it would. Mr. Lovell, who, as I say, is one of the greatest men in the trade, said in 1887 that he believed that if imprisonment were adopted it would have a large amount of influence in checking the fraud that exists, and, I think, coming from such a man, that opinion is worthy of being taken notice of.—With reference to your getting at the wholesale dealer, the invoice that is now given as a warranty you think is valueless?—I think it is valueless to this extent, that if it is proposed to exonerate the retailer upon his showing an invoice from the wholesale merchant, you are exonerating a man who may be guilty simply because the invoice does not fix the material that has been seized or sampled.—That is to say that the identity of the particular specimen to which

the invoice refers cannot be proved?—No, it cannot be proved.—Do not you think that your inspection ought to extend beyond the retailers' shops to the manufactories?—I think that retailers, wholesale dealers, and manufactories alike should be subject to inspection.—So that all places where these food products are gathered together, or manufactured, should be open to inspection, and under the control of the Acts?—I think so. One of the large manufacturers some years ago, in his evidence, said that he should personally welcome inspection, and he went so far as to add that he would be willing to pay the expenses of a Government inspector to reside upon the premises.—With reference to the adulteration that goes on by way of mixing, you think that at present it is impossible to prevent it?—Yes.—Mr. Whiteley: Was the last answer with regard to margarine factories?—Yes, it was a margarine manufacturer who said that.—Mr. Yerburgh: Under the present law is there a power of inspection of margarine factories?—In the 10th Section of the Margarine Act it says “any officer authorised to take samples under the Sale of Food and Drugs Act, 1875, may, without going through the form of purchase provided by that Act, but otherwise acting in all respects in accordance with the provisions of the said Act as to dealing with samples, take for the purposes of analysis samples of any butter, or substances,” and so on.—May I draw your attention to the following words, “samples of any butter, or substances purporting to be butter, which are exposed for sale”?—That is in the Sale of Food and Drugs Act, is it?—No, that is in the Margarine Act.—Will you kindly tell me the section?—It is Section 10.—That is the one I am reading.—You stopped at those words?—“On substances purporting to be butter, which are exposed for sale;” that I take does not apply to factories.—That is the point?—Yes.—Sir W. Foster: That is your opinion?—Yes.—As regards the trading mixtures, have you anything to say on that?—I have several remarks that I should like to make on that subject. In the first place I would say that it is impossible to prevent the adulteration of butter unless you prevent the mixing of margarine and butter absolutely. Mr. Pearson, the buyer of the Wholesale Co-operative Society, which is the largest concern in the world, said in his evidence that he was opposed to the system of mixing as he believed that it conducted to fraudulent sales.—Mr. Bolitho: Was it in England or America that he gave that evidence?—In England; he said it before the Margarine Committee. I quote these two facts because they are important; and Mr. Lipton's manager, who I suppose is the second largest salesman, said that he could have done an enormous sale in these goods had he chosen to sell them without saying what they were. And I want to be permitted to quote from material which I have here: One wholesale merchant writes me to this effect, that a customer of his who was getting 25 casks of mixture a week is taking 10s. profit per cwt., instead of about 2s. or 3s. profit, which he would do if he were selling pure butter.—Mr. Whiteley: For mixture sold as butter?—Margarine mixture, sold as butter. I should like further to refer to a circular which is issued by one of the large butter and margarine shippers, in which the firm say: “There appears to be a great diversity of opinion existing among English analysts as to the purity of these butters. Some of the leading city analysts of the north have passed them as pure, whilst others, great authorities in chemistry, who have had samples of all the manufactures before them, have declared that they are certainly adulterated with 8 to 10 per cent. of foreign fat.” Then a short time ago a deputation from the South of Ireland Butter Merchants' Association attended the meeting of the Limerick Corporation to call attention to the increased growth of butter adulteration, or mixture, in that city, when it was shown that tons upon tons of margarine were imported into Limerick, and spread through the country. Limerick is one of the headquarters of the Irish butter trade and of the condensed milk trade, the milk bought from farmers being skimmed by separators, and the skim milk converted into condensed milk, which is sold to the poorer classes, who believe it to be the pure article; while the butter is, to a large extent, known to be mixed with margarine, and sold in the form of mixture as pure butter.—Sir W. Foster: Do those remarks of yours apply to Limerick especially, or equally to all Ireland?—I refer to Limerick especially because of the fact of the South of Ireland Butter Merchants' Association attending there at a meeting of the Corporation of Limerick.—But you think it might be equally applicable to other places?—Yes, unquestionably.—These mixtures come from France, do they not, to a great extent?—To a large extent, I have some experience of that myself, and I should like to refer first to this fact, that the Chairman of the French Commission, who was in charge of the last Margarine Bill, stated in the French House that Normandy and Brittany butters were sent to England with 15 to 35 per cent. of margarine mixed with them.

(To be continued.)

#### MILK PROSECUTIONS AT BRISTOL.

JOHN LEONARD was summoned for selling milk adulterated with not less than 33 per cent. of added water and boracic acid. Defendant had been convicted on two previous occasions for selling milk adulterated respectively with 65 per cent. and 13 per cent. of added water, and on the last occasion was fined £5 and costs. The Bench repeated the fine of £5 and costs.—Alfred Bryant, of 16, Bean-street, Pennywell-road, was summoned for selling adulterated milk with not less than 22 per cent. of added water. Fined 10s. and costs.



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## Food and Sanitation.

SATURDAY, NOVEMBER 17TH, 1894.

### SHORT MEASURES IN BREWERS' BEER BARRELS.

#### IMPORTANT CASE AT GATESHEAD.

DOES any person, we wonder, be he public or private consumer, take the trouble to have beer barrels tested to see if he receives the full quantity paid for? Some revelations made in a prosecution at Gateshead on November 1st would seem to show that if this be not done, it certainly ought to be. Messrs. Henry Edward Taylor and Robert Glass, trading as Messrs. Taylor and Co., Brewers, Swalwell, were charged under the Merchandise Marks Acts with supplying false trade descriptions to their barrels. A Mr. Richard Thompson, landlord of the Rock House Inn, Crook Gate, made the following extraordinary statement:—He had purchased beer from the defendants and found a  $\frac{1}{2}$ -barrel, numbered 1076, was  $2\frac{1}{2}$  gallons short in quantity. A barrel, numbered 1008,  $2\frac{1}{2}$  gallons deficient, and a hogshead, numbered 1196, 3 gallons deficient. Mr. James Laidlaw, inspector of weights and measures for the Chester-le-Street division of the county of Durham, said that, in consequence of communications from Mr. Thompson, he had examined the 3 casks, which he found incorrect as regards capacity. He extended his investigations to 15 casks in all, each of which was too small to hold the quantity alleged to be in it. The deficiencies ranged from  $3\frac{1}{2}$  gallons to 3 pints. Mr. Laidlaw then made a purchase of a  $\frac{1}{2}$ -barrel at the brewery, and informed Mr. Glass why he had bought it. On testing it he found it was  $1\frac{1}{4}$  gallons deficient in the quantity of liquid. A brewer of the name of Henderson gave his experience with regard to the size of barrels to the effect that the brewers simply fill the barrels sent them, taking no steps to see that each contains its alleged quantity. A Mr. John George Settle, formerly tenant of the Golden Lion Inn, Winlaton Mill, gave evidence of having complained of the short capacity of the defendants' casks. In one instance there was 2

gallons short. Mr. Glass had offered him 2s. in recompense, but he had refused it. At the hearing of the case, letters were read which had passed between another witness, Mr. Cuthbertson, and the defendants 20 years ago on this question of shortage. The Bench decided to fine the defendants £30. This is a case of enormous importance for the entire, licensed victuallers' trade as well as for the general public, and it is not surprising that it has created consternation amongst brewers throughout the county of Durham. It would be of interest to know if any other officials have had like experience in the measuring of brewers' barrels. If not, it seems a very extraordinary thing that practices of this kind should go on unsuspected and unrestricted for so long a period.

### WORN-OUT HORSES FOR AMERICAN CANNED MEAT.

FOR many years past it has been an open secret that the venality of officials of the Health Department in Chicago has enabled meat canners to have animals slaughtered whose flesh was unfit for human consumption, but which, when cooked and canned for shipment to England and other countries, would be eaten by consumers entirely unsuspecting of the original state of the cans' contents. In the months of June, July, and August of this year over 100 cases were recorded of persons who suffered from food poisoning in different parts of England and Wales. How many there were who suffered and whose cases were not recorded it would be difficult to say, but these figures are of themselves sufficient to merit grave consideration. In the mad hunt for the almighty dollar the American meat canner, in addition to being by no means particular in the class of flesh he puts into his cans, is not over-careful in seeing that the tins are cooked sufficiently long to ensure absolute sterilisation. As a result ptomaine poisons are developed, often with fatal effects upon consumers of tinned foods. When, in addition to these dangers, tinned meat eaters learn that Detective O'Connor, of the Health Department, Chicago, who appears to be less susceptible to the influence of palm oil than other officials have been, has made public the fact that worn-out horses are slaughtered in Chicago, salted, and shipped to Europe, it may well lead American tinned meat eaters to look askance upon these articles. For the sake of a great industry, and of the firms who can and ship meats of really excellent quality and of a character above suspicion, it is to be hoped that these scandals in Chicago will be probed to the bottom.

### CONDENSED MILK.

#### ITS RELATION TO PUBLIC HEALTH AND TO INFANTS' FEEDING.

THE attention which has been directed during the past few years to the diseases to which consumers of ordinary milk are liable has led to a number of inventions being offered, each of which is alleged to absolutely sterilise the milk, and to guarantee the consumer against any possible risk of infection. The use, however, of such inventions is not only troublesome and costly, but it would be found to be a nuisance in practice. There is no doubt that, up to the present, condensed milk containing the whole of its cream has many advantages. Of course, like numerous other exceedingly useful inventions, this of condensed milk has its drawbacks, and that many so-called condensed milks are deprived of their fat are used by thousands of people under the belief that they are full cream milks. We have no objection whatever to the sale of these milks for ordinary use with tea or coffee, where their keeping properties, portability, and cheapness afford enormous advantages over ordinary cows' milk, and our opinion is as strong as ever that it would have been distinctly, beneficial to the interests of the large firms who can these milks had they carried out what they practically



resolved on before the extraordinary judgment in the High Courts that a microscopic announcement was a sufficient declaration of the contents, and had labelled them Condensed Skim Milk, the word "Skim" being as large as the rest of the type. We believe that had this been done an enormous impetus would have been given to the sale of pure condensed milks having the full amount of fat, and that it would have rapidly become known by the public that genuine condensed milks had so many advantages over ordinary milks, could be relied upon as always being of irreproachable quality, and without any liability whatever to disseminate disease, as is unfortunately the case with ordinary milks, that regard for health and cleanliness would have led to the use of the pure condensed milks to a far greater extent than is at present the case. Our efforts, however, were resisted in what, to our thinking, was a very short-sighted manner, with, the result, in consequence of this unfortunate and, from a common-sense point of view, indefensible decision of the High Court, that the past year has seen a remarkable deterioration in the quality and character of the lowest classes of condensed milks. The following from a daily paper is an instance in point:—

#### CHEAP TINNED FOOD AND NASTY.

##### SEIZURE OF THE STOCK OF A SHOP IN MILE-END OLD TOWN.

During the prosecution of a hawk at Thames for exposing for sale tins of bad condensed milk it was stated that defendant had purchased them from a man in Spring-garden-place, Mile End Old Town. The medical officer of health and the sanitary inspector for that district happened to be in the court, and immediately upon the conclusion of their cases they proceeded to the address mentioned, and demanded admission, which was refused. Setting a watch on the premises, they returned to the police-court and applied for a warrant to enter by force. Armed with this, and accompanied by a constable, they eventually obtained admission to what appeared to be an empty shop. Here a large quantity of tinned food was discovered, the greater part of which proved to be unfit for human consumption, and was seized and removed. Most of the tins had been stripped of their original labels, and several bundles of new labels of various kinds were discovered. At Thames later in the day an information was laid by James Twaits, sanitary inspector, that he had seized 148 tins of preserved pineapple, 18 tins of mulligatawny soup, 12 tins of tomatoes, and 100 tins of condensed milk, the whole being certified by Dr. Thomas Taylor, the medical officer of health, to be unsound. Mr. Mead made an order to destroy the whole lot.

There have been other seizures of a similar character, and unless the sale to the public of trash of this kind can be made impossible, an amount of apprehension will be raised in the minds of consumers of condensed milk which can only have the effect of acting disastrously upon the trade. Mr. Twaits, the sanitary inspector, and Dr. Taylor deserve great credit for having prevented the sale of this filthy trash. There is no class of diseased food so dangerous as tinned food, as a reference to our article in another column will demonstrate, and all concerned with the sale of such foods will not only confer a great benefit upon the public, but protect themselves and the good repute of the articles in which they are interested, if, when goods of this class are offered to them for sale, or they know of such rotten tinned goods being on the market, they will communicate at once with the sanitary inspector for the district, and cause the seizure and destruction of the dangerous foods.

#### A MAGISTERIAL CURIOSITY.

WE never saw but one admiral, and he was regarded as combining in his own person so overpowering an amount of intellect as to be above criticism. He justified the enormous opinion entertained of him by sending his ship, which cost England about a million of money, to the bottom of the deep blue sea, and very nearly sending another vessel, costing almost as great a sum, to keep it company. Our experience of admirals may therefore be said to have been limited and unfortunate. It would seem that Gosport has a similarly unfortunate experience in the fact that a certain Admiral Field occupies the position of magistrate in that charming place. We will

not wash, dress, or put into clean linen this wonderful naval man, but shall allow his pure unadulterated incompetence to manifest itself exactly as reported in the *Portsmouth Evening News* of November 6th, as follows:—

At the Gosport Police-court to-day, George Moore was summoned by Police-sergeant White, of Eastleigh, for selling cocoa adulterated with 80 per cent. of starch and sugar. Sergeant White said that on the 13th ult. he sent his son into the defendant's shop, and stood at the door while the assistant sold him a pound of cocoa, for which he paid 6d. Witness then revealed who he was, and told the assistant that the purchase had been made under the Food and Drugs Act. The analysis showed the adulteration to the extent of 80 per cent. Defendant said the cocoa was manufactured at Bristol, and sold as chocolate. He found it on the premises when he took them. Admiral Field asked defendant what cocoa really was.—Defendant said the only pure cocoa was cocoa nibs. The Admiral told defendant he was making a very poor defence. He was a most incompetent defendant. He (the Admiral) could make a better defence himself, and as he could not see him suffer he was inclined to make it. He asked White what he expected to get. White said loose cocoa was asked for. He expected to get cocoa. The Admiral: What do you understand by cocoa?—White: Ground cocoa nibs. The Admiral: You didn't know till just now what cocoa was. He told him no one would drink pure cocoa. Ground cocoa nibs would be most intolerable. Anything more nasty they could not conceive. They might just as well drink mud. He told defendant he had made a most incompetent defence. The Admiral, who got red in the face, finally banged "Stone's Manual" on the desk and said, "Go! There's an end of the case." Defendant went, and as he disappeared the Admiral cautioned him not to plead guilty again.

Our readers must feel with us that it is a very lamentable thing that any person so absolutely unfitted as it appears this Admiral is to exercise any functions of a magisterial character, should afflict the Bench with his presence.

#### EXCESS WATER IN IRISH BUTTER.

IN a recent issue we reported the astounding evidence of a self-styled "expert," of the name of R. Gibson given at Rathkeale, whereby a Judge Adams believed that Mr. Gibson had found 32 per cent. of water in butter produced with the best appliances and the utmost care. It astonished us that any judge could give a moment's credence to such ignorant nonsense, ruinous as it was to the most important of Ireland's industries, and calculated to sow in the minds of English buyers utterly unfounded and damaging distrust of Irish butters. The following letter has recently appeared in *The Limerick Chronicle*:—

##### WATER IN BUTTER.

Dear Sir,—At last we are in possession of the facts regarding Mr. Gibson's 32 per cent. of water case, and they conclusively prove the justness of the standard fixing 16 per cent. of water as the limit allowable in pure butter. Over and over again Mr. Gibson has asserted that with the best appliances and utmost care he failed to produce butter with less than 32 per cent. of water in it. This it appears was not the fact, for when he found the butter contained 32 per cent. of water he "turned it through the machine again and took 16 per cent. out of it." Mr. Gibson has by this frank admission blown his case to pieces. All that the Government analysts demand in effect is that the excess of water shall be squeezed out of the butter, and Mr. Gibson has shown that even under adverse circumstances it is possible to reduce the water in butter to 16 per cent. (the Government analysts' limit) and get top market price for the butter as well.—Yours faithfully,

Q. E. D.

Mr. Gibson's letter which provoked the above crushing exposure, after abusing Sir C. A. Cameron and public analysts generally, contained the following extraordinary admission:—

The facts are, I was informed by my dairyman that although he had been running the churn for over an hour there was no sign of butter coming. I said, "get up the speed to 65 (we usually churn at 45 revolutions per minute) and if it does not come in five minutes let me know." I was again informed, "No sign of butter coming." I then went and opened the churn and found the cream was asleep, and at once took the necessary steps, roused it up, and had my butter in ten minutes as nicely grained as possible, but the quantity produced was too great in my eyes, so I stayed and saw it properly handled, and most carefully packed.



When I bored and examined the packages they looked perfect, and any farmer would be glad to have such to show on any market but when they were weighed I said "this is an impossible return; I shall test it." I then found 32 per cent. of moisture, although not a single drop of water had been added to it, and a large quantity wrung out of it. So instead of sending it out I turned it through the machine again and took 16 per cent out of it. It was sold at top price of the market to one of the best judges of butter that I know, and he pronounced it splendid quality.

After this we trust the last has been heard of this "expert" and that his evidence in future will, to use the expressive language of his own land, be regarded as that of a *bosthoon*.

#### BERKSHIRE ANALYST'S REPORT.

THE county analyst (Mr. W. W. Fisher) reports that during the quarter he received for analysis four samples of milk from the County Council inspector (all genuine); one sample of butter (found to be adulterated with 75 per cent. of foreign fat) and six of drinking waters (three good and three not satisfactory). From the beginning of the year up to the present time he received only 34 samples, a very small number in relation to the population of the county; and he submits that additional inspectors be appointed to carry out more effectually the provisions of the Act.

#### WATER AT SPIRIT PRICES.

AT the Hundred House Petty Sessions Thomas Finlow, of the Duke William Inn, Rock, was charged with having sold adulterated brandy on September 10th. Inspector Walker proved having sent a sample of the brandy to Dr. Swete, who reported that it was 32 degrees under proof, 25 degrees being the most allowed by law. Defendant said only 2s. 4d. was charged for the brandy, and people who bought it were told it was "polluted." The Bench fined defendant £2, and £1 1s. 3d. costs.

Elizabeth Ann Beach, of the Plough Inn, Far Forest, was charged with having sold adulterated gin on September 10th. In this case the gin was reputed to be 45 degrees under proof, 35 being the limit allowed by law. The Bench fined defendant, who had been previously convicted, £2, and £1 1s. 3d. costs.

#### HEAVY FINES FOR DILUTING BEER.

AT the Thames Police-court, on November 6th, Henry Dorman, a licensed victualler, of Woolmore-street, Poplar, was summoned, at the instance of the Commissioners of Excise, for diluting beer with water. The dilution was alleged to be at the rate of 3½ gallons of water to the barrel of 36 gallons. Assuming that to be correct, then the whole profit would be 4s. 8d. out of the dilution. It was stated that on March 4th, 1890, defendant was fined £10 and 2s. costs for a similar offence.—Mr. Dickinson said he must impose a substantial sum to show the defendant that he could not do that kind of thing with impunity. He would be fined £25, or in default of distress one month's imprisonment.—Alfred Gooch, a publican, of Brunswick-street, Poplar, pleaded guilty to a similar offence.—In this case it was stated that the dilution amounted to 4 gallons of water to a barrel of 36 gallons, and that in 1890 the defendant was fined £12 10s., after a previous conviction for dilution.—Mr. Dickinson observed that this made the third time the defendant had been guilty of the offence. He would be fined £25, or five weeks' imprisonment.

#### MARGARINE PROSECUTIONS.

AT Wood-green Petty Sessions, on November 9th, Stephen Mathers, New Southgate, was summoned for selling butter adulterated with ninety per cent. of foreign fat. Inspector Bridge, Middlesex County Council, proved taking the sample, and produced the analyst's certificate showing that it was adulterated with ninety per cent. of fat other than butter fat. The defence was that the inspector was served with margarine instead of butter by mistake. Defendant was also summoned for selling it in a paper not branded with the word "margarine." For the adulteration Mr. Moulton Latham and Colonel Durrant imposed a fine of 20s. and costs, the costs to include the analyst's fee, and 10s. and costs for not supplying it in a branded wrapper.—John Cole, of 7, Botolph-road, New Southgate, was summoned for selling butter adulterated with eighty per cent. of foreign fat, and also for exposing margarine for sale not labelled in accordance with the Act. The inspector purchased six ounces of butter for 4½d. from defendant's shop, and produced the certificate of the analyst showing it was adulterated with eighty per cent. of foreign fat. The Bench fined defendant, whose defence was that the inspector was served by his son from some margarine bought for his own use, 20s. and costs (to include analyst's fee) for the adulteration, and 10s. and costs on the second summons.—Frederick Honner, of 23, Betstyle-road, New Southgate, was fined 10s. and costs for exposing margarine for sale not labelled, and 10s. and costs for not serving a quantity in a branded wrapper.

#### ADULTERATION AT TEIGNMOUTH.

AT Teignmouth Police-court, on November 5th, Edmund Marchant was charged with selling milk to Police-sergeant Richards adulterated to the extent of 29 per cent. with water.—Defendant pleaded that a servant in his employ had put the water in the milk and he had since discharged him.—The Bench, however, considered it a bad case, but being the first offence let defendant off with a fine of £5, and £1 7s. 6d. costs.

#### IMPORTANT SUGAR ADULTERATION CASE.

BEFORE the Potteries Stipendiary at Tunstall, on November 8th, Thomas F. Bold, Longton, was summoned by Mr. Knight, inspector under the Food and Drugs Act, for selling as Demerara sugar an article which was alleged to be a coloured imitation. Mr. Horridge, of Liverpool (instructed by Messrs. Hand and Co.) prosecuted, and Mr. Layton, of Manchester, appeared for the defence.—It was stated that a portion of the sugar purchased from the defendant was submitted to the county analyst (Mr. Jones), who certified that, in his opinion, the sample was not Demerara sugar, but white crystals (probably from beet), coloured yellow, to imitate the sugar from the cane, as made in the West Indies.—Mr. Jones was called in support of his certificate, and stated that in the sample analysed the estimated ash was '05, whereas in Demerara sugar it ran from '2 to '4, which indicated that it was a highly refined beet sugar, coloured to imitate the sugar from Demerara.—In reply to Mr. Layton, he said that he founded his opinion upon the dye and the general character of the sugar. He could not distinguish between cane and beet sugar, both being pure; but there were mineral constituents in cane sugar which were found to a greater extent than in highly-refined beet sugar. In the sample the ash, instead of being one-third per cent., was only a five-hundredth per cent. He was not aware that all golden colours were artificially coloured. Chloride of tin was used for clearing sugar. Azo dyes did not give sugar its golden colour, but imitated that colour. By the Stipendiary: The colour of the sample was not a natural colour, but he could not say what the colouring matter was.—Mr. C. E. Cassal, vice-president of the Society of Public Analysts, deposed that the sugar in question was dyed; and a number of expert witnesses were called to prove that what was commercially known as Demerara sugar was a pure cane undyed sugar, grown in Demerara. It also had a price of its own, being dearer than other sugars.—For the defence, Mr. Layton said that the prosecution denied that this was Demerara sugar, but failed to prove affirmatively what sugar it was, as they ought to have done. He contended that this being admittedly sugar, it was of the nature, substance, and quality of the article demanded, and therefore there was no offence, no matter what part of the world the sugar came from. If the defendant had been charged with dyeing the sugar the proceedings ought to have been under another section of the Act, but he submitted that no dealer had ever been convicted for the harmless colouring of food stuffs to make them attractive, which was simply what had been done in this case. It was absolutely necessary for commercial purposes that a "bloom" should be put upon sugar, and it was for the purpose of creating that bloom that dyes were used, formerly in the form of chloride of tin, but more recently by means of Azo dyes, which were quite harmless.—A number of expert witnesses were called to prove that the sugar in question was the same in nature, substance, and quality as Demerara sugar, and it was slightly dyed to give it the "bloom" of commerce; that this dyeing was a custom of the trade, and that the term Demerara sugar was not confined to sugar grown in Demerara, but included all sugars grown in the West Indies, Brazil, and that part of the world.—The Stipendiary said the question turned solely and absolutely on what was known to the commercial world as Demerara sugar. It seemed to be beyond dispute that there was a sugar known by that term, and it was also clear that other sugars could be coloured to imitate it. All the witnesses agreed that it was a raw sugar, and the best raw sugar, and the prosecution contended that it was a pure cane undyed sugar. This was contested by the defendant, who said that all sugars were dyed, some by chloride of tin, and some by aniline dyes. But those two processes were entirely different, the first being a clearing matter, and the other a foreign colouring matter. He found as a fact that the purchaser had not received what he might reasonably expect when he asked for Demerara sugar, but that he was supplied instead with a sugar dyed to imitate it.—This was a test case, and, therefore, the penalty would be a nominal one, but he could not lose sight of the fact that these adulterations were a fraud on the whole public. And it was a fraud of the worst kind, because the offenders defrauded the people in respect of their food, and defrauded their competitors by obtaining an undue advantage by unfair means.—The defendant was fined £2, and £27 6s. 8d. costs.

#### MORE HONOURS FOR JEYES' DISINFECTANTS.

JEYES' Sanitary Compounds Company, Limited, have again scored, the Leicestershire Trades and Industrial Exhibition having awarded them a gold medal for their disinfectants, and the Stockport Trades and Industrial Exhibition another gold medal. The firm has already received no less than 67 gold and silver medals and awards.



**ADULTERATED WHISKEY.**

FREDERICK SCRASE, Ditchling, was summoned for selling adulterated whisky on August 31st.—Mr. Moore, inspector under the Food and Drugs Act, said that on the day in question he purchased some whiskey which he had analysed, the certificate showing that it was 3 degrees under the legal standard.—Defendant was fined 2s. and 8s. costs.

**ADULTERATED RUM.**

ELLEN EDGE, Bull and Dog Inn, Burscough, was charged with selling rum which was 31 degrees under proof, on September 26th.—Superintendent Jervis stated that Sergeant Carson visited the house and purchased the rum, which had been certified by the public analyst, Dr. Campbell Brown, to be 31 degrees under proof, 25 degrees being allowed by the Act.—A fine of 20s. and costs was inflicted.

**WARWICKSHIRE MILK AND BUTTER.**

THE county analyst, reporting to the County Council upon the samples of food submitted to him for analysis, says: "Of the 77 samples of milk, only one was adulterated, and this was deficient of 25 per cent. of its natural fat, while of the 23 samples of butter all were genuine. This is the most remarkable, and withal the most satisfactory report I have ever been able to make, and it indicates that the dairy produce, as sold in the county at the present time, is of much improved quality, and shows a percentage of adulteration considerably less than that of England and Wales generally. When we remember that for many years the average amount of adulteration, in milk alone, was considerably above 25 per cent. of the samples purchased, we can appreciate the good work the Act has accomplished in the county since it has been efficiently and vigorously worked.

**IS THIS MR. WILLIAM BROWN'S BUSINESS?**

THOMAS FELSE STEVENS appeared at the Southwark Police-court to two summonses issued at the instance of the sanitary authorities of Bermondsey, charging him with selling milk which was not of the nature, substance, and quality demanded by the purchaser.—Mr. Henry Thomas, chief inspector of the Bermondsey Vestry, handed in certificates by the public analyst of the district, showing that two samples of milk purchased from the defendant's servants were deficient of butter fat to the extent of 30 per cent. in one case and 25 per cent. in the other, and the analyses further showed 8 and 5 per cent. of added water. It was admitted that the milk had been "scalded" for the purpose of preservation—a process which one of the witnesses for the defence admitted involved dilution to the extent of 5 per cent.—A previous conviction for a similar offence was proved, and Mr. Fenwick imposed a fine of £10 and 12s. 6d. costs in each case.

**UNWHOLESOME FISH AT LOUGHBOROUGH.**

AT the Loughborough Police-court, on November 7th, Charles Orton, fishmonger, Leicester, was summoned for exposing unwholesome fish, viz., 530 herrings, for sale in Loughborough Market, on August 25th.—Inspector Claridge proved that the fish were putrid, and quite unfit for human food. They were rotten, and many had burst. Defendant said to him at the police-station that he expected it would be a "six quid job," and would give witness two to settle it.—Dr. T. Corcoran, the medical officer of health for the borough, said he examined the fish, and found them in a state of decomposition, unsound, unwholesome, and unfit for human food.—The Bench convicted, and it was stated that at Coalville in July last defendant was fined for a similar offence. He was now ordered to pay £5, and costs 27s. 6d., or go to gaol for two months with hard labour in default.

Edward Cavenor, fishmonger, Leicester, was summoned for a similar offence in Loughborough Market on October 13th.—Wm. Palmer Claridge, the inspector, proved the case, and the Bench imposed a fine of £2 and costs, or one month in default.

**DRUG ADULTERATION AT LINCOLN.**

MR. JOHN FREDERICK HARSTON, chemist, 214, High-street, was summoned at Lincoln last week for supplying, through his assistant, Harry Taylor, precipitated sulphur which was not pure, on the 24th ult.—Sergeant Bradley said he sent a lad into the defendant's shop with a paper, on which was written "Precipitate of sulphur," with instructions to purchase three ounces thereof. The lad did so, and on coming out handed witness a white paper, in which were two other packets—a 2 oz. and 1oz.—both labelled "milk of sulphur." Witness went into the shop and saw the assistant, who admitted serving the boy, and defendant, who was fetched, then said, "You should not have sent this, the proper sulphur is kept upstairs." The analyst's certificate was to the effect that the compound consisted of 42·5 parts of sulphur, and 57·5 parts of hydrated sulphate of lime.—Mr. Manby (magistrates' clerk): The sending of the boy was an artifice, I suppose?—Witness: Yes.—Defendant admitted there had been a technical breach of the law, but contended that inasmuch as the article supplied was properly labelled, the purchaser was not deceived. The mistake arose through the article being supplied by an assistant who had only been in his employ nine days. He had been in business twenty-six years, and had never been asked over the counter for precipitate of sulphur.—The Mayor said they were advised to convict, and should therefore impose a fine of 15s., including costs.—Wm. Henry Martin, chemist, 1, Melville-street, was summoned for a similar offence, the analyst's certificate in this instance stating the sample submitted to consist of 36·64 parts of sulphur and 63·36 parts of hydrated sulphate of lime.—The evidence was the same as in the previous case, but the lad sent into the shop admitted the assistant told him they did not keep precipitate of sulphur, hence the summons was dismissed.

**MARGARINE PROSECUTION.**

WILLIAM BLINMAN, of High Littleton, was charged at the Temple Cloud Petty Sessions, on November 6th, with exhibiting margarine for sale without the necessary label required by the Act. P.S. Saunders spoke to visiting the shop kept by the defendant on October 26th, together with P.C. Boobyer, and asking for half a pound of butter, saying that he required it for the purpose of submitting it to the county analyst. Mrs. Blinman, who was in the shop at the time, replied that that which the sergeant wanted was margarine; adding, "We have not a bit of butter in the shop." Witness called her intention to having infringed the Act, and asked her to produce the label, which she said had been lost. When leaving the shop Mrs. Blinman remarked, "You may rely upon it that it is margarine, and that we sell it as such."—Cross-examined by the defendant, witness said that Mrs. Blinman used the word "margarine" and not "butterine."—P.C. Boobyer having given corroborative evidence, defendant deposed on oath that he had had no margarine in his possession for sale for five or six years, and contended that what the police officers saw was pure butter, and not margarine as alleged. Samuel Appleby, agent for Messrs. Lovell and Sons, Bishop Sutton, proved selling the defendant a quantity of butter, shown on the invoice now produced. He had never sold him margarine, nor had the defendant ever asked him for it.—The chairman (to defendant): Who else do you deal with?—Witness: I sometimes get some from Mr. Gibbons, in Bristol. When ordering a tub, I always ask that it shall be pure.—The Chairman: Do you deal with anybody else?—Defendant: Nobody in particular. We do not cut out a lot.—Defendant's wife said that the word she used was "butterine," and not "margarine." In fining defendant £1 and costs, 9s., the chairman pointed out that the defendant had made himself liable to a much larger fine, but, as it was the first offence under the Act in that neighbourhood, they had decided to deal as leniently with it as possible.

# CHAMPION'S MUSTARD

MANUFACTURED AND MILLED FROM

## MUSTARD SEED ONLY.

CHAMPION & CO., so far as they are aware, are the only makers of importance who

### DO NOT MAKE AN ADULTERATED MUSTARD.

CHAMPION & Co. confine their attention to selling only Genuine Mustard Flour, milled and manufactured from Mustard Seed. They frequently sell 20,000 tins of such Mustard in a day in London alone.

To make CHAMPION'S Mustard, it is essential to use only the finest Mustard Seeds, inasmuch as chillies or ginger cannot be employed to produce pungency, nor can turmeric be utilised to secure high colour; consequently ripe and perfectly-coloured Mustard Seed only can be used.



## ADULTERATION OF WORKHOUSE MILK.

SIR CHARLES CAMERON has reported to the North Dublin Union, as a result of his analysis of the milk supply, that 25 per cent. of its fats had been extracted from the milk supplied by two of the contractors—Mrs. Margaret Cullen and Mrs. Sarah Hughes. Mrs. Margaret Cullen's milk contained 25 per cent. and Mrs. Hughes' milk 22 per cent. less fat than ought to be present in the poorest milk. It was decided that the contractors should be prosecuted.

## EXCESS WATER IN BUTTER.

JULIA SCANLAN was summoned at Cork by Sergeant Ralph, inspector under the Food and Drugs Act, for selling butter containing an undue quantity of water.—The Sergeant deposed to having purchased a pound of butter for 8d. from the defendant on October 13th. He had the butter analysed, and the certificate showed it contained 21·73 per cent. of water, and that it was adulterated to the extent of at least 3 per cent. of water beyond lowest quality butter.—The Bench fined the defendant 5s. and costs.

## PUTRID MEAT PROSECUTION.

GEORGE GREEN, Hove, was summoned for exposing for sale, on the 31st ult., seven pieces of beef and thirty-two sausages adjudged to be unfit for human consumption.—Inspector Henry Brownings stated that on the day in question he went to the defendant's shop and there saw the meat and sausages in a bad condition, the former being putrid and the latter covered with mildew.—Dr. Medcalfe, medical officer of health for Hove, stated that he had examined the food in question and had found it to be wholly unfit for human consumption.—A fine of £10 and costs was inflicted, or two months' imprisonment.

## ADULTERATED MILK AT WEST HAM.

WILLIAM MARSHALL, of 78, Stratford-road, Plaistow, was summoned at the West Ham Police-court for selling adulterated milk.—On October 15th Mr. Carey, an assistant in the office of Dr. Sanders, the medical officer of health for West Ham, bought a pint of milk at the defendant's shop, and a sample of it having been sent to the public analyst it was certified as having been adulterated with 20 per cent. of added water.—Defendant was fined £5 and costs.—Frank Marshall, also of 78, Stratford-road, Plaistow, was next summoned for a similar offence. In this case the defendant was selling milk in the street, and a sample taken from his can was found to be adulterated with 10 per cent. of added water.—A fine of 40s. and costs was imposed.

## CHICORY AT COFFEE PRICE.

AT Bow-street on November 12th, William Wilson was summoned for selling adulterated coffee.—It was proved that a short time ago a street orderly in the employ of the St. Giles's Board of Works purchased from the defendant a quarter of a pound of what was supposed to be coffee, which when analysed was found to contain 15 per cent. of chicory.—Defendant said customers could not expect to get coffee at the price paid (3½d. a quarter of a pound).—Mr. Lushington said defendant had no right to supply coffee and chicory without mentioning the presence of chicory.—Defendant was fined 20s. and costs.—William Paine was similarly summoned, and the same fine inflicted, the coffee in this case being adulterated to the extent of 10 per cent.—Defendant asked for a summons against the firm who supplied him with the so-called coffee, and he was referred to the county-court.

## A NEW PRESERVATIVE.

A NEW process of preserving food has been invented by Heinrich Paulsen, of Hamburg, Germany, and he has protected his invention by United States Letters Patent. It is described as a process of preservation of food and similar articles consisting in first submitting plants such as *Gelidium*, *Glocopeltis*, or *Chondrus* to an extracting process by the use of boiling water, the decoction being further boiled together with glycerine and with the addition of antiseptic agents; the substances to be preserved being then enveloped in the mass thus prepared, which is either poured over them or made into receptacles or cases adapted to receive the food to be preserved; whereby the food is effectively protected from contact with the air, and caused to retain its natural properties, taste, flavour and appearance unaltered.

ADULTERATED SAFFRON.—The Belgian public analysts have recently examined samples of saffron, many of which they found to be adulterated with glucose, honey, vegetable fibres coloured with acid fuchsine, and barium sulphate.

## A CO-OPERATIVE SOCIETY FINED FOR DISEASED MEAT.

AT the Portsmouth Police-court, on November 7th, the Portsea Island Mutual Co-operative Society, represented by Mr. S. G. Stainer, were summoned at the instance of George Timothy Billing, an assistant sanitary inspector, for exposing for sale a piece of meat that was unfit for human consumption.—Dr. B. Mumby, medical officer of health, said the meat was decomposed, and absolutely unfit for food. If eaten it would have certainly caused disease.—The Bench said that they were not satisfied that the meat was exposed for sale, and dismissed the summons. There was a further information against the Company for having deposited in their shop, for the purpose of sale, certain pieces of meat unfit for human consumption. When Inspector Billing visited the Company's shop in Fratton-street, on August 27th, he found ten pieces of beef in an ice-chest. They were unfit for food.—Dr. B. Mumby, Chief-Inspector Bell, and Inspector Monckom stated that the pieces of meat were decomposed and entirely unfit for human food.—For the defence Paul was re-called, and denied that the meat was intended for sale. It was merely put in the ice-chest pending inspection by the Committee of the Company. There was also some fresh meat in the same chest.—The Magistrates said they had not the slightest doubt but that the meat was intended for sale, and fined the defendant £10 and 12s. costs.

## BEER DILUTION.

IN a summons against Frederick Eade, the landlord of the King's Arms, St. George's-road, for diluting beer, it was proved that on September 3rd two samples were taken at the house, one of fined and the other of unfined beer, and the certificate of analysis showed that the fined beer was diluted to an extent of not less than 5 gallons of water to a barrel of 36 gallons.—For the defence, Mr. Sydney said his client had been a publican for nearly 20 years, and had never at any time been summoned or had any complaint made against him. At the time in question the defendant himself was away; the premises were in course of re-erection, and the workmen, who had access to the cellar, might have taken out beer for their own use, and then used water and waste to make up the deficiency.—Mr. Hopkins remarked that it might have been an accident, or it might not. The evidence before him was not sufficient to enable him to judge. At all events, the dilution was a large one. The defendant would have to pay a penalty of £25.—A similar summons had been issued against Charles A. Chapman, a beer retailer of 16, Tower-street, Waterloo-road. The ale on draught was diluted to an extent equal to the addition of 6 gallons of water to the barrel of 36 gallons.—The defendant admitted the offence, but pleaded that business was bad, and that his household expenses were heavy.—Mr. Hopkins remarked that this was the most barefaced confession he had ever heard from a beer retailer, and fined the defendant £20.

## GETTING AT THE FARMER.

FREDERICK JAMES COTTLE, of Pill Farm, Seend, Melksham, was summoned at Marylebone by the Paddington Vestry, for, being under contract to supply the Metropolitan and Suburban Milk Supply Association (Limited), selling milk from which 48 per cent. of cream had been abstracted without disclosing the fact.—Mr. Thomas Parker, one of the vestry's inspectors, said that upon the arrival of the 10.55 train at Paddington station he saw three churns of milk bearing the defendants' label taken from one of the trucks. From each of the churns he took a sample, which he submitted to the public analyst, who certified that 48 per cent. of cream had been abstracted.—A clerk in the employ of the Metropolitan Milk Supply Association produced a contract in which the defendant undertook to supply the firm with "pure milk."—The defendant said that but for the milk being taken from "fresh" cows, he could not possibly account for the want of cream.—Mr. Ricketts, solicitor, here intervened, and said that he appeared to represent the Metropolitan and Suburban Milk Supply Association. He drew the magistrate's attention to the fact that by selling the milk supplied by the defendant, his clients had laid themselves open to be summoned every day. The firm had had the milk supplied by the defendant analysed from time to time, and the result showed that it was his practice to act as he had done in the present case. In one instance the quantity of cream abstracted amounted to over 60 per cent.—Mr. Cooke remarked that the defendant was not an ordinary retail dealer in milk. What he sold was sent to London and spread abroad, and every one who sold it was liable to a very heavy penalty. He imposed a fine of £10 and costs.

## CORRESPONDENCE.

To the Editor of FOOD AND SANITATION.

Weights and Measures Office, Dumfries,  
November 12th, 1894.

DEAR SIR,—In your report of the Soda-water Case in last week's issue, I notice you mention "Edinburgh" where it should be Dumfries. I thought I would just call your attention to this slight error.—Yours truly,

J. D. MACKNAY, Inspector.



## MARGARINE : ITS NUTRITIVE AND DIGESTIVE VALUE COMPARED WITH PURE BUTTER.

By DR. ADOLPHE JOLLES.

DR. JOLLES says :—We are led to predict the almost universal employment of this cheap and moreover excellent substitute for natural butter. And, in fact, it is stated that directly after the starting of several margarine factories in France, similar factories arose in large numbers in almost every country in Europe.

In Austria, too, the manufacture of margarine was carried on at an early period, and the municipality of Vienna, after satisfying itself that proper conditions of manufacture as to purity, etc., were observed, authorised the sale of margarine under the name of "Economiical Vienna Butter."

Margarine received a similar favourable appreciation in Germany in 1873, at the time when information was being collected in support of the Bill concerning preserved foods.

It is evident from the rapid creation of numerous margarine factories, which flourished everywhere in the different countries of Europe, that in the opinion of the most competent hygienic authorities margarine could not be considered in any way injurious to health, provided it is prepared with pure materials of good quality. Thenceforth there could not be the least doubt that, both from a hygienic and from an economical point of view, the discovery of M. Mège-Mouriès was a remarkably valuable one and marked a period in the history of similar discoveries.

Until 1873, fat, which is such an important factor in human food, was relatively very dear, and a great part of the people could not use it in sufficient proportions; for the suet cannot be made use of in any way, and the lard only in certain dishes which are not numerous.

It is entirely due to margarine that we are now able to obtain a fatty product both cheap and good. Margarine, however, only possesses these advantageous properties when prepared with pure materials of good quality and when sold for what it is. But, alas! in the first place, margarine itself mixed with natural butter is put in the market under the name of "natural butter," with the effect of securing a higher price; and, in the second place, the method of its preparation, as well as of the materials of which it is composed, leaves much yet to be desired.

It is to be remembered that, in spite of the care taken to obtain a pure method of preparation, margarine will always remain nothing more than an artificial fat, and thus can never equal the fat derived from milk, and differs from butter made from cow's milk in certain parts insignificant in appearance but yet essential in a certain respect. These essential parts are the volatile fatty acids, their ethers, and other substances which give to butter made from cow's milk a characteristic aroma and the taste which is peculiar to it. These are, no doubt, in regard to the provision question, only specific advantages, but they play an important part in it nevertheless; to which must be added the fact that in consequence of its bad preparation, margarine still often contains, in a more or less considerable degree, solidified fatty acids, notably stearic acid, which are not met with in a pure and rational preparation of this product, and which exercise an unfavourable influence on its taste. Even the smallest remains of solidified fatty acids impart a disagreeable taste, especially to melted fat; and to this irrational method, a rather inappropriate method of manufacture, the consequence of too great desire for profit, must be attributed the prejudice so generally existing against the use of margarine among the greater part of the masses of the people. The sale of margarine under the guise of "natural butter" has, in the course of time, arrived at such dimensions that most countries have been compelled to pass special laws concerning artificial butters, in order to put an end to these impostures. But along with the inconveniences which result from margarine being put on the market as mixed butter only, instead of under an appropriate name, there are other important circumstances with regard to hygiene which have drawn upon its manufacture the particular attention of the sanitary authorities.

It is quite possible, indeed, that in the manufacture of margarine the fat of sick or slaughtered animals is used indiscriminately, sometimes even fat coming from the knackers, which provokes disgust.

Again, it is known, that the manufacture of margarine is not always carried on at temperatures capable of killing all the parasites. It would be necessary, therefore, to place a control over this manufacture by State supervision, which would tend to cause a sufficiently conclusive proof to be supplied at all times of the origin of the raw material employed in the manufacture, and in this way to completely prevent the use of such materials as would appear to be dangerous from a sanitary point of view. Of course, it would be necessary to find a mode of supervision which should not be so exacting as to render the industry more difficult or impossible. We are convinced that such a control introduced by the State would meet with the best reception on the part of *bonâ-fide* manufacturers of margarine; for it would tend greatly to enhance the value of this product as a preserved food, and would cause the prejudice existing against its use to disappear.

On the whole, the manufacture of margarine is really simple enough, and, like all manufactures carried on by the aid of machines, is capable of being managed with the greatest cleanliness. Besides, by using nothing but good and pure materials at the beginning, a product can be made which will possess, even without

the addition of natural butter, all the unctuousness desired, and moreover will be completely free from solidified fatty acids.

A good pure margarine, which bears in commerce the name of "Finest (Primiissima) margarine," leaves nothing to be desired either as regards taste or smell; we even find mention in special publications of cases where even experts or so-called jurors have not been able, in agricultural exhibitions, to distinguish good margarine from a good natural butter, and other cases where, at the time of a trial of cookery, some good margarine was taken for good butter, made from cow's milk.

As far as concerns the digestive and nutritive properties of margarine in comparison with those of natural butter, we find in the special works published on the subject but very few indications concerning this question, which is so important from a hygienic point of view. A commission of the Academy of Medicine of Paris being charged by the Ministry in 1880 to inquire into these points, declared that margarine does not possess, in these respects, the same value as butter. In the opinion of the Academy, margarine could not be completely chylified in the intestines in consequence of the excessive amount of fatty acid which it contains, and of the difficulty of its transformation into a milky and emulsive substance. Unfortunately, we do not find in the report of the said commission more precise indications as to the nature of the products into which it made inquiries, and we do not know the labours by which it has arrived at the conclusion indicated above.

As I have already several times remarked the quality of the materials used plays a chief part in the manufacture of margarine, and it is possible that the product which formed the basis of the Commissioner's experiments was relatively rich in stearine and palmitine, which would explain in a plausible manner the criticism of the said commission.

As I shall show further on, we have not been able to ascertain the alleged difficulty of the transformation of margarine into an emulsive substance in the intestines; on the contrary, on the occasion of some comparative experiments made with the finest margarine (Primiissima) and natural butter, we have been able, with the aid of the microscope, to observe the same emulsive formations in both cases. In the very voluminous technical report submitted to the German Parliament in support of the Bill relating to the sale of "natural butters," it was shown that as regards its nutritive value, "margarine" or "artificial butter" is not essentially inferior to pure milk butter, but that it must be regarded as difficult to digest. This assertion of the report, however, does not rest upon any scientific investigation that was ever made.

Sell\* (in his work on artificial butter, etc.) arrives at the result, by no means conclusive, that artificial butter made from the fat of healthy animals cannot (except in being a little less easy of digestion than milk butter) give rise to the supposition that it is capable of acting injuriously on the health of man.

According to Professor Uffelmann,† margarine or artificial butter is almost as easily digestible (96 per cent.) as natural butter. Unfortunately, here again we fail in knowing how Uffelmann arrived at the result of 96 per cent.

Professor Flugge, in his magnificent work "Account of the Fundamental Principles of Hygiene" (Veil and Company, 1889, page 294), says briefly, but precisely and conclusively: "As far as concerns its use and its value as a fatty food, artificial butter must be placed in the same rank as natural butter."

A. Mayer‡ has sought to determine by the aid of experiments the question of the digestive properties of margarine. As a result of these experiments, it has been stated that in the case of two different persons, from 62 to 70 grammes of butter consumed per day have been digested to within 2 per cent. for milk-butter and four per cent. (this with a little more difficulty) for artificial butter. According to Mayer, and in accordance with the preceding indications, butter made from milk is easier to digest than artificial butter. But even from Mayer we do not learn what was the quality of the margarine used in his experiments; however, even after making allowance for this, it appears to us that the very small difference of 2 per cent. between the two kinds of butter, a difference which might reasonably be attributed to a possible error in the method of experimenting, cannot justify the assertion made above.

In his journal on the use of milk (1887, Vol. xvi., page 360) Herder recommends the use of pure margarine (not made up into artificial butter) for all cooking purposes, and this, as the result of personal experience and of the use of this product in his household during many years.

It follows, from the indications contained in the works we have thus consulted, that the question of the digestive properties and nutritive value of pure margarine cannot be considered in any way as definitely decided. It is for that reason that we have been led to submit the product in question to a fresh examination as exact as possible. On this occasion, I must point out, we have taken the greatest care to use nothing but pure materials, and as far as possible to make our experiments always under identically the same conditions.

(To be continued.)

\*"Artificial Butter: Its Value from a Sanitary Point of View, and the Methods of Distinguishing It from Butter made from Milk." (An article taken from the publications of the Sanitary Council of the Empire, Vol. I., page 481-545.)

†"Manual of Hygiene," by Professor Uffelmann (Urban and Schwarzenberg, 1890, page 206).

‡"Institute of Agricultural Experiments" (Vol. XXIX., page 215).



## A MILK DEALER RECOVERS A FINE FROM THE DAIRY COMPANY.

JAMES CRIDGE, a provision dealer, of Old Ford, claimed damages at Bow County court, from the Dewsbury Dairy Company for misrepresentation as to the quality of milk supplied. His case was that the local adulteration inspector analysed a sample which was found to be deficient of cream to the extent of 65 per cent. Plaintiff was thereupon summoned at Worship-street Police-court, and although it was a first offence, the magistrate thought the deficiency so serious that he fined him £20, the full penalty. Since he was summoned his business had fallen off considerably, and he now claimed damages for the fine to which he had been subjected and the consequent loss of his trade.—Mr. Eve said that he would be able to prove that the milk, which came from Lord Rayleigh's farm, was quite pure when it left defendant's premises. It must have been adulterated either by the man who carried it to plaintiff, or by plaintiff himself.—Judge French: On the evidence it is quite clear plaintiff did nothing to the milk.—Mr. Eve: But if our man adulterated it he exceeded his instructions and did not do it on our behalf. It is his tort, and plaintiff's remedy would be against him, not us.—Judge French: That will not do at all. Your servant did not sell the milk on your behalf till it had reached plaintiff's shop. It is your duty to deliver it pure. To ensure that you must see that you get trustworthy servants. You are clearly liable.—Mr. Eve: But I am prepared to argue further—that there was no guarantee that it should be pure milk which was to be supplied to plaintiff.—Judge French: If your company does a large business, it would be better for them not to take that point. Besides, milk is milk. No guarantee is needed.—Mr. Eve: We supplied a fluid which answered to the name and description of milk. Even buttermilk is milk.—Judge French: But the term milk means pure, unadulterated milk, and nothing else. When it is deteriorated by the removal of cream, it is skimmed milk; and there is a worse degree still called buttermilk. This was a very bad case indeed. I shall decide against you.—Mr. Eve asked that a note should be taken of his objections, with view to an appeal, and judgment was given for plaintiff for £22 with costs.

## THE SELECT COMMITTEE ON ADULTERATION.

### CONTINUATION OF MR. JAMES LONG'S EVIDENCE.

#### XIX.

(Continued from page 360.)

MR. JEFFREYS: Who said that?—M. Guillemin, the Chairman of the Commission appointed by the French Government in connection with the last Margarine Bill which was rejected by the House, largely, so far as I gather, from the evidence, because the Minister of Commerce declared that if the Bill were adopted it would destroy the French margarine trade with this country. The Bill proposed to prohibit colouring. Then again, if you will allow me to take you to another French instance, I was over a factory in the Department of Calvados in which margarine was being blended with butter for the English market, and I will put in evidence one of the labels of this factory, showing that it was sent to England as guaranteed pure butter. Since that time this man, who rose from being a workman in a similar factory to be master of a large concern, has been repeatedly fined. I went with the French Dairy Farmers' Association, as their English guest, to a number of these places, and at another one, where we were treated with great hospitality, but forbidden to enter the factory. The proprietor was a great blender of margarine and butter, and he has since been repeatedly fined; and is now imprisoned by the authorities.—Mr. Kearley: Was not the other man imprisoned also?—No; he has been fined.—Sir Walter Foster: Have you got the labels now?—I have no guarantee, but the label which is wrapped upon the butter, or rather the wrapper which is wrapped upon the butter for the English market, I have here.—You had better put it in then?—Certainly (*handing in the same*).—This is the label which is put on at the factory?—Yes; that is sent to England on the butter.—Mr. Channing: And this label is to enable this mixture, this blend, to be sent to the English market as pure dairy butter?—So I gather.—Sir Walter Foster: That is to say it bears a stamp in blue letters, "Guaranteed pure butter"; and in red letters, "Pure dairy butter"?—That is so.—Have you anything further to say on this part of the subject?—I took a party of English people to another factory which bears a very high name for its manufacture of butter, and those people buy butter in the open market, and send it to England. We were under the impression at the time, from what we were shown, although we were not allowed to touch it, that it was all pure butter; but since then I have been informed by the scientific advisers of the firm that they also blend, but blend very skilfully, in accordance with scientific teaching, margarine with the butter.—Then those people buy in the open markets of Brittany and the western parts of France the butter produced on the various farms, and afterwards blend it in the factory by adding to it margarine?—Yes, adding to it margarine in proportion to the ratio of the volatile fatty acids, I take it, and so escape any possible conviction. But I would suggest (if you will allow me at this moment) that it is impossible for a firm of this character to send

butter of the quality that they buy to the English market, and sell it at the price that they do, when the Paris prices are much higher than what they obtain in England. From my personal knowledge I have seen butter sold in the Paris market of a similar quality (I speak as an expert in the matter) at as much as 2s. 7d. and 2s. 9d. per lb., and yet those people are taking from the English market 14d. and 16d.—Is the butter that is sold in the Paris market pure butter, or blended?—Pure butter, unquestionably.—Then the French do protect themselves against those frauds, and we are open to them?—I do not think they do to a sufficiently large extent. I believe that the French are imposed upon enormously; but they have an advantage in the Paris halles, that the butter is sold, not as with us, but it is sold by auction in the presence of a number of experts, each of whom has an opportunity of sampling it as it is being sold. They have a very long slide which reaches from the auctioneer's desk right down the hall, and on each side of this slide the butter is passed in baskets or boxes; the buyers are on either side, and they sample it as it goes down.—But it would be impossible in a process like that to detect a small percentage of margarine?—No doubt; but I think that the best Paris shopkeepers are sufficiently alive to the very finest quality of butter not to buy a sample that is adulterated to any appreciable extent, in fact not at all; and I think that it would not pay a man to adulterate to a small extent; therefore they are practically free.—Is there no more accurate or scientific analysis made from time to time by which to detect adulteration?—Not in France.—With reference to the sale in those particular places and under the circumstances that you have just described, I mean to say?—I do not gather the specific question.—I pointed out to you in my former question that the ordinary observation of the buyers would not enable them to detect a small percentage of margarine?—No, it would not.—Is there no other scientific method of analysis on which those buyers rely?—No.—Mr. Channing: Do they not have their samples analysed from time to time?—No, the buyers do not.—They just judge from their observation?—Yes. The point that I should like to impress upon the Committee is that it would not pay those who send these small consignments of butter to the Paris markets to adulterate with a small percentage of margarine, whereas a large percentage would be inevitably detected by the buyer.—Sir Walter Foster: Are these people that you speak of, who send this butter, persons who send only small consignments?—They are nearly all small farmers.—It comes direct from farmers?—Yes.—Not from factories?—Not from factories. There are a few cases in which it comes from factories. I know of one myself in a small village, in which I was staying with the mayor of the village, who bought from all the small milk producers in his parish; there was something like 200 occupiers of land in a very small parish, all milk producers, and they all delivered milk to him; he had a separator and made butter, and sent the whole to the Paris market. In this particular case, although he was living at the other end of the Department, he was branding the butter "Isigny," the name of the finest butter in France.—Do these practices go on in Germany?—No, not to so large an extent. I have not so extensive an acquaintance with the system in Germany, but I know that the prohibition of mixing in Germany has largely discounted the mixing of the two articles.—They are in a better position then in Germany than we are, or than they are in France?—Yes.—Can you say anything about the Hamburg practice?—I have here a circular which was sent to me by the Produce Merchants' Association of Manchester some little time ago. In consequence of a considerable stir with regard to the adulteration of Hamburg butter, this association determined to take certain samples: I think, if I remember rightly, every member of the association agreed that on a certain day a sample should be taken from his butters, and in the long run the samples were sent to Mr. Allen, of Sheffield, and Mr. Bernard Dyer, of London, in duplicate. Of 11 samples sent six were found to be adulterated with margarine, and five were doubtful.—Sir Mark Stewart: Was it marked "pure"?—I cannot say. They were all bought as butter and sold as butter. I have another analysis of a sample of Hamburg butter containing 74 per cent. of butter fat only; and immediately after the sample was taken and analysed by the chemist, a circular was sent out by the exporter, Mr. E. F. Evers, of Hamburg, in which he lamented the fact that butter was being exported from Hamburg to England with an admixture of margarine. This gentleman said: "The only way that I can see to regulate this business is for buyers to require from shippers an absolute guarantee as to purity of product, and that the authorities in England be directed to turn their attention to the adulteration of butter with oils, foreign fats, etc. My butters are warranted to be always pure, and this has been several times confirmed by analyses in England; further, a guarantee that the butter sold by me is free from oils, chemicals, and foreign fats appears on every invoice." This butter was then being sold considerably under market price, and the writer of this circular was the very exporter of one of the samples to which I have referred.—Sir Walter Foster: Those words which you quoted were the words of a person who was an adulterator?—They are in his letter.—Are they his words?—They are signed by him. They were sent to one of the buyers, who sent them on to me.—You believe that experts have a good deal of difficulty in detecting these frauds?—That is so.—With reference to mixing, how is the mixing managed?—I have seen it done, and can describe it; it is a very similar process to that of working butter taken from the churn.—They have a very large table, some 5½



feet in diameter; the butter is first graded; I presume it is graded in accordance with its adaptability for mixing; I cannot tell you positively, but it would be if it were my case, or anyone who understood the business. Having provided the butter which is graded, the margarine is mixed in weighed quantities and placed upon the butter table; the two articles are blended together by the rollers, and simultaneously with the blending a small tank at the top of the machine filled with colouring matter and salt and water, is distributing through some revolving pipes the mixture over the butter and the margarine; so that simultaneously, as the machine is being worked with the pure butter, the margarine, the brine and the colouring matter are all being blended together, and in the end the mixture is such that you certainly could not detect it.—And if they keep within a certain percentage of margarine, that is practically impossible of detection?—I believe that it is practically impossible of detection. That is a point which I will come to a little later on.—Do these mixtures occur in English warehouses sometimes where they are described as pure?—Not long ago I was induced by a sample that was given to me to go to an English warehouse in the City of London. I asked to see the principal, and I saw the gentleman. I said, "This butter has been sold to a person who has handed it to me as pure, and I should like to speak to you about it." He replied to me in a very paternal manner; he told me how I could detect margarine by its influence upon the palate, and assured me that this was pure butter. It was quite wrong. At the same time he had a whole floor of the warehouse covered with boxes of this material, each of which was warranted pure butter. I had this sample analysed, and the analysis sent to me was that it contained 25 per cent. of margarine.—Sir Mark Stewart: Do you know the price that it was being sold at?—I would not like to say at the moment; it was either 1s. or 1s. 1d. per lb.—Sir Walter Foster: These mixtures are largely used, you think, in hotels and restaurants?—They are.—On what do you base that opinion?—From my own experience. As I have mentioned, it is impossible under certain circumstances to say with certainty that an article described as butter is really butter or not; but when the percentage of margarine is sufficiently large for an expert to tell, he can tell; and I think I am warranted in saying that I can tell myself inevitably if the percentage of margarine is sufficiently high, say one-third.—What effect would the margarine have upon your palate?—It melts much more rapidly and there is a flavour of the fat of the bullock, which to my mind is a sure sign that you are not eating pure butter.—You cannot convey to us any rough test by which margarine can be detected?—I do not think so, except that if you try a number of samples I think you would be able to tell very soon. Some of these have been analysed subsequently, and my judgment has been confirmed.—Butter-tasting has become a fine art, then; it requires at all events a good deal of skill to detect these things?—I think it is experience more than skill that is required. I may give you another instance. Three or four years ago the British Dairy Farmers' Association held their annual conference in Scotland, and we were invited to a large margarine factory at Dunragit, in Wigtownshire, a factory I believe conducted upon very proper principles; they make butter also, and I think other products. Among other things we were shown some very beautiful samples made up in the form of butter, and we were invited to test them and express our opinion upon them. I had had some little experience of the matter before, and did not taste them, but nearly every one did who went into this particular dairy, and without a single exception, I think, every person praised the samples as being perfectly pure, good, high-class butter; and they were subsequently astonished when they were told that they were three different samples of margarine, three different blends at different prices. So that even a party of experts may be easily misled and deceived when a sample is made up in a very skilful manner.—That bears out the observation which I made just now, that it is very difficult to tell by the mere taste?—I think it is. I should like to add, that I do not reflect for a moment upon this factory; I believe those who run it are doing so upon proper and thoroughly fair principles.—Have you anything to say as regards the comparative cost of butter and these mixtures?—Yes. The point that I would put to the Committee is this, that if pure butter costs 112s. per hundredweight it would be possible to mix it with 25 per cent. of margarine and to sell the same at 100s. per hundredweight, and thereby to realise an extra profit of 12s. per hundredweight; that is to say, assuming that the work were skilfully performed. In this way it seems to me that the poor are defrauded rather than anybody else, and we are simply paying a bounty upon foreign fat.—The poorer classes are defrauded, but they get a cheaper butter, do they not?—But they

pay the price of butter of a higher class.—But is the butter less nutritive than they obtain?—I should say so.—Mr. Channing: Is it butter at all?—In this case it will be 25 per cent. of margarine, which would be margarine by the Act.—Mr. Kearley: Your point is that they pay 100s. per hundredweight for margarine?—Yes, they are paying for the mixture the price of butter.—Sir Walter Foster: But you said the price of the butter was 112s. per hundredweight?—Yes.—You say it is sold at 100s., which is 12s. less than its price as butter?—My point is that it is impossible to mix with a butter costing 112s. per hundredweight margarine to the extent of 25 per cent., and to sell the mixture at 100s. per hundredweight.—That is wholesale, not retail?—Yes.—Mr. Bolitho: What would you put the cost of margarine at?—Sixpence a pound, or you can buy it as low as 4d.—Sir Walter Foster:—Is not this butter mixture sold under those circumstances at a lower price than butter?—No; I think it is sold at the same price; that is the most crucial point.—That is what I wanted you to bring out, because we were told by a former witness that at many shops these mixtures were sold at a lower price than pure butter, and that consequently it had a tendency to lower the market price of butter, and to give a dishonest profit to those who are selling margarine as butter?—Probably this is what was meant: that the manufacturer or merchant was selling a mixture to the retailers at a lower price. I think he does, because I believe that the retailers, taking them as a whole, are responsible for the frauds that exist, but that they make the public pay the full price?—I have no doubt whatever.—Cannot you conceive that if there are three or four shops in a town one man may create a business by selling butter which is a mixture of margarine and butter at 10d. a lb. against his rivals who are selling pure butter at 1s.; and by so doing he will tend to lower the price of butter in the neighbourhood?—I do not think he would; I think it is a question which the public discriminate in. The public in the South of England, at all events, want a mild unsalted butter, and they get it in the form of this mixture.—Which they are unable to detect?—Which they are unable to detect. My own belief is very distinctly that the modern taste for this exceedingly mild butter that we get in London has been created by the margarine manufacturers.—But that taste having been created has an influence on the market?—It has an influence to this extent, that the public are willing to pay higher prices for the mixtures than they are worth.—But they are less willing to buy pure butter?—They are; but one may look at it in this way: that a person who likes this particular mild butter can go into the market and buy the pure butter and the pure margarine, and make the mixture at home at a considerably less price, as they do in Denmark; that is their practice.—That is to say, the purchaser makes the mixture?—He does.—Mr. Kearley: The consumer does that?—Yes.—It is not legal, I think, in Denmark to mix butter and margarine together?—Practically.—It is illegal, is it not?—It is not, as expressed by the Act, but it is practically illegal, because of the law in regard to colour.—Sir Walter Foster: Have you any other instance?—I will give you another instance. I was shown over a very large factory owned by a Dane who came to England when the Danish law was passed, because he could not carry on his practice, I suppose, in Denmark. I was shown over very kindly by his manager, of whom I have nothing to complain of; and I was shown a sample of mixture upon leaving, which I was asked to pass an opinion upon. I said to him in reply: "If this was shown to me anywhere else I should say it was a little sample of pure butter." He said, "It is not; it is a mixture which is sold at 11d." the inference being that it was sold by the retailer at 11d. But I was quite convinced that it could have been sold at 2d. or 3d. a lb. more with perfect confidence by the retailer.—So that practically, a mixture skilfully prepared in that way is just as saleable as pure butter?—Yes.—And as well appreciated in some respects by the public?—It is as much, and probably in some cases more.—Mr. Whiteley: Is it as wholesome and nutritive as butter?—I think that it is pretty well determined by scientific men that butter fat is more indigestible than any other kind of fat, but the honourable chairman will probably know more about it than I do.—Mr. Yerburch: Are you aware of the price of margarine in this country, sold as margarine, without any admixture of butter, or without any colouring?—It is constantly offered at 6d., and I have seen it as low as 4½d.—That is margarine without butter being mixed with it, and without being coloured?—There is no margarine sold without any admixture of butter, for this reason, that in the manufacture of margarine oleo is mixed with milk to the extent of about 100 lbs. of oleo with 1,000 lbs. of milk; then the two materials are churned together, and the result is that about 5 per cent. of butter fat remains in the margarine, what you call the pure margarine.

(To be continued.)

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## Food and Sanitation.

SATURDAY, NOVEMBER 24TH, 1894.

### WHAT IS PAID FOR ADULTERATION PER YEAR.

MANY sensational statements are made, usually in journals of the "Sniplet" class, as to the enormous sums represented by adulteration. In a contemporary we find the following astounding paragraph, based apparently upon a report of the United States Agricultural Department.

"The movement to enact a National law to regulate and restrict the manufacture and sale of sophisticated food and drugs will no doubt receive fresh impetus from the report now made public by a special agent of the Agricultural Department. It is declared that adulteration is practised to an extent which demands the law's interference, and the Federal Government should extend its aid in enforcing State laws applying to adulterations. The report says: 'The extent of adulteration is fully 15 per cent., of which 2 per cent. is of a character injurious to health. But to furnish 65,000,000 people with food, drink, and drugs, costs not less than 6,760,000,000 dollars, and it is found that the amount of adulteration reaches the immense sum of 1,014,000,000 dollars annually. As at least 2 per cent. of the whole is deleterious to health, 135,000,000 dollars constitutes the annual amount paid by the American people for sacrifice of their lives or injury of their health.'"

We have not seen this report, but if it says that 1,014,000,000 dollars annually is the loss by adulteration, it must have been calculated and drafted by a person of very slight intelligence, inasmuch as it is based on the supposition—entirely absurd—that this 15 per cent. of adulterated articles costs *nothing*, hence the American expert's figures lead to the erroneous conclusion that the public are defrauded of about £203,000,000 per annum by adulteration. A fairer assumption would be that the persons practising the adulteration realise thereby an extra profit of about 10 per cent. all round, which makes the total out of which American consumers are swindled to be about twenty million pounds per annum. It is probable that a fair estimate of what the people of the United Kingdom are swindled of by adulteration would be about *thirteen millions of pounds per annum*, a great deal of which, by-the-by, goes to America for adulterated lard and the like, to France, Germany—and we suspect Denmark—for adulterated butter; but the Danes are very

artful, and if they adulterate they work as artists and put only enough in to defeat analysis.

The worst feature about this adulteration is that the principle article tampered with is the very one that forms the main food for children, milk, and that this adulteration is encouraged by our Government. That ordinary milk is dangerous enough, the remarks of Mr. Hattersley, a representative of the Aylesbury Dairy Company, at a recent meeting at Aylesbury, show. His company before accepting a contract to supply milk had the farm inspected by the medical officer of health for the district, and the water analysed by their own analyst. The importance of the latter step was emphasised by the fact that out of 160 samples taken no less than 46 were condemned, and therefore his company refused milk from these farms. The farmer would get higher prices for his milk if whole milk was not allowed to be adulterated with separated milk, and as an instance of the profit which might be made by doing this he mentioned that his own company might make £8,000 a year by adopting this method of trading. Evidence prepared by his company and presented to the Committee of the House of Commons which dealt with the question of adulteration proved that it was possible to add 60 gallons of separated milk to 100 gallons of whole milk without infringing the Adulteration Acts.

There are few dealers in milk who take the precautions the Aylesbury Dairy Company does, and the Government Department at Somerset House that is responsible for this state of things acts not only against the public health but in fostering fraud. In how great a degree it encourages rogues we hope the evidence yet to be given to the House of Commons Select Committee will prove.

### ADMIRAL FIELD, M.P., AGAIN!

THE foolish exhibition this curious legislator made of himself at Gosport, to which we referred in our last issue, led to an application being made to the Gosport Bench on November 13th, by Mr. Godwin, solicitor, Winchester, who said the purchaser appealed because he was aggrieved, and the proceedings were erroneous in point of law. He was instructed under the 33rd Section of the Summary Jurisdiction Act.

Admiral Field asked who instructed him. Mr. Godwin said it was the Chief Constable, who had obtained the consent of the Standing Joint Committee of the County Council. Shortly, the case was that the Chief Constable, in accordance with his duty, felt the necessity of strictly carrying out the provisions of the Food and Drugs Act as being very important for the poor of the county, and he therefore felt bound to question the decision. He asked the Bench to be good enough to state a case, so that it could be taken to the Queen's Bench for consideration. The Chief Constable contended that there ought to have been a conviction, seeing that cocoa was asked for, and an article containing 80 per cent. of that which was not asked for was sold, the purchaser being therefore prejudiced to that extent. Moreover the defendant had pleaded guilty. He was driven to ask for a special case because it was found that where an information was dismissed they could not have the matter re-heard by taking it to Quarter Sessions.

Admiral Field said the Bench were not willing to state a case. Mr. Godwin tried to induce the Bench to state their decision, and quoted cases, but the Admiral adhered to what he had said. "I am certain we have done justice, and I will stand by it to the last."



### AN IRISH BULL IN BREECHES.

AN absence of the sense of humour is the last thing an Irishman would be accused of, and hitherto a delight in prurient suggestiveness has not been an Irish failing. The lady who complimented Dr. Johnson on having left filthy and obscene words out of his dictionary, and received the crushing answer, "Then you looked for them, madam!" appears to have a descendant who is a member of the Cork Corporation. At a recent meeting of that august body a city councillor rose and solemnly averred he had a great complaint to make. The walls of the city, amongst other posters, exhibited a spirited drawing of a magnificent bull advertising Bovril. With pious horror the city father pictured how the wrath of heaven would descend upon Cork and the walls displaying the poster crumble away before the storm of outraged decency; for, terrible to tell, the artist had not drawn a castrated bull. But it is here that the absence of any sense of humour in an assemblage of Irishmen, inexplicable and incredible as it may seem, manifested itself. In all solemnity the City Council discussed that Bovril bull, and ultimately decided that the bill-posters should exhibit no more of the posters.

The curious thing about this putting of an Irish bull into breeches is that although the poster has been displayed for months, and millions have seen it and admired its vigorous drawing, no one ever saw anything to object to in it, or wished to put it into breeches outside Cork. After this Cork may claim kin with the American city where the lady asked for a "piece of stomach of bacon," deeming "a bit of belly bacon" indecent, and the "legs" of tables are called "bases" and decked with pantalletes. But that Cork, the laughter-loving, witty city, associated with the memory of Prout, should thus make itself ridiculous is a terrible fall indeed!

### DANGEROUS DECEPTION IN DRUGS.

MEDICAL men know full well how difficult it is to obtain pure drugs, and many cautious practitioners are compelled, out of regard for the welfare of their patients, to dispense their own medicines, or to strongly recommend that they should be dispensed by some particular firm of chemists who have gained the confidence of the profession by their care and accuracy in dispensing, and the purity and strength of the drugs used. Adulteration, as all who have given careful study to the subject well know, may be practised in drugs with impunity to an extent almost surpassing belief, inasmuch as there are very few substances in which a successful prosecution is possible, owing to the absence of definite standards of purity. It is by no means pleasant to learn on unimpeachable authority that a supposedly harmless substance like Glauber's salt may contain as much as eight grains of arsenic per pound entirely unsuspected by the vendor or the purchaser. It should be borne in mind that such was found to be the fact in an analysis made by Sir Charles Cameron, of Dublin, who stated that persons taking these supposedly innocent salts would swallow as much as 15 grains of arsenic in the course of a month.

In the beginning of this year Mr. Fairley, the Leeds analyst, found in glycerine, indiscriminately purchased, as much as two grains of arsenic per pound, and other samples of glycerine have been found to contain as much as four grains per pound. Analyses of seidlitz powders as ordinarily sold, purchased indiscriminately from stores, grocers, and chemists, made by Mr. C. E. Sage, resulted in the discovery that they were grossly adulterated, some of them containing lead; and Mr. Hilbing, speaking of the results of his inquiry into narcotic herbs, had to admit that what were imported into this country from Germany were rubbish, being in this respect of character somewhat similar to that of the swords made in Germany, of which our soldiers had so terrible an experience in a recent war. *Punch's* picture of the soldier who "leaned upon his sword and it broke under him" conveys a moral which might very well be applied

to the drug trade, as at present carried on. The sufferer from disease invokes the aid of the ablest physician, but in place of that physician's prescription bringing relief to the sick one, the odds are in favour of it being compounded of drugs that are either of insufficient strength, are grossly adulterated, or are, as Mr. Helbing tersely puts it, "rubbish." Precipitate of sulphur has been found adulterated with sulphate of lime; sulphate of lime forms concretions in the bowels, and has been found to prove fatal. Scammony as a purgative is no longer to be relied upon on account of its being adulterated with resin, chalk, and starch. Castor oil is at times a combination of common oil and cotton oil. Mr. Ellwood examined samples of reduced iron, which should have been, according to the British Pharmacopœia standard, 50 per cent., but which he found contained only 5 per cent. of the genuine drug. We regularly come across cases of death from an overdose of morphia, the victims at times being medical men, who, it would be supposed, would exercise the greatest care against an overdose. It is not pleasant to find that opium is grossly adulterated, some Egyptian opium, for instance, having an average morphia strength of 8 per cent., whilst Smyrna opium has as high as 19 per cent. of morphia, and Persian as much as 14 per cent. These differences are sufficient in themselves to constitute a grave danger in prescribing this drug. Spurious sarsaparilla is largely on sale, and balsam of copaiba having none of the properties of the true drug is sold as genuine. About the swindling rubbish sold under fancy names as disinfectants we have often had occasion to speak, and the terrible results of using a so-called carbolic, which contained no carbolic whatever, for disinfecting in cases of typhoid at South Wingfield, and which had no effect whatever upon the disease germs, but gave rise to an outbreak of fifty cases of typhoid fever, and led to five deaths, will be fresh in the memory of our readers. It is therefore self-evident that inspectors of food and drugs who, in addition to looking after the purity of milk, butter, and the like, do something to secure purity and full strength of the drugs commonly sold to the public, are doing an exceptionally useful and what in the light of the facts given above cannot be regarded as other than laudable public work. Indeed, this is so patent that we cannot understand any person, possessed of ordinary intelligence, who would for a moment contest its truth. Yet, it seems that there are still important towns in England that have magistrates who consider it their duty, in place of aiding inspectors to suppress adulteration in drugs, to positively bully the officials who haul offenders into court. Sir Charles Cameron's discovery of 8 grains of arsenic per pound in Glauber's salts, and Mr. Sage's publicity of the fact that seidlitz powders as ordinarily sold contained lead, would doubtless, had they been known to the magistrates at Skipton in a case tried there on the 16th inst., have caused them to take a different view of their duties to the public. A Mr. Fred Moore, drug dealer, Howarth, was summoned by Mr. Randerson, inspector under the Food and Drugs Act, West Riding County Council, for selling seidlitz powders which Mr. Alfred H. Allen's analysis stated were as follows:—

The contents of the six blue papers ranged in weight from 150 to 152·8 grains, averaging 151·6 grains, of which 30·6 grains consisted of bi-carbonate of sodium. The contents of the six white papers consisting of tartaric acid ranged from 29·9 to 30·8 grains, with an average of 30·4 grains. Observations: Seidlitz powders were constituted an official preparation by the additions to the British Pharmacopœia of 1885, published in 1888, which recites that the contents of each of the blue papers shall weigh 160 grains, of which 40 grains shall be bicarbonate of sodium; and that each of the white papers shall contain 38 grains of tartaric acid. The description on the box containing the powders was headed "Genuine Improved Seidlitz Powders."

The defendant said he did not claim that there was more in the papers than the analyst's certificate showed, but he contended that he had not broken the law, because the inspector did not ask for seidlitz powders according to the British Pharmacopœia. He asked for seidlitz powders, and he got them.—In reply to that Mr.



Randerson quoted the case of *White v. Bywater*, in which the Court of Queen's Bench held that the magistrates were wrong in dismissing the case because the purchaser had not asked for the article according to the British Pharmacopœia.—Mr. Moore said the essential part of the powder was present, and the only deficiency, even according to the standard now set up, was in regard to the effervescing qualities.—Alderman Brigg: Your powders would have less "fizz"? Is that the only effect?—The Defendant: Yes.—The authority on which the inspector takes his stand I have been unable to find until after these proceedings were commenced. I have searched my Pharmacopœia and could not find the formula, and I have now learned that it is in a supplementary work published about two years ago, of which I have had no notification.—Alderman Brigg asked whether the label "Genuine Improved Seidlitz Powders" would not imply that there was a variation from the ordinary standard.—The Inspector said the drugs might have been better drugs; he believed they were, but the proper quantities were not there.—Alderman Brigg: Would you hold, then, that there can be no seidlitz powders sold which vary from the official preparation?—Mr. Randerson replied that if attention was called to the variation, then all was well. If Mr. Moore had told him that the powders were not according to the British Pharmacopœia, then he would not have been summoned.—Mr. Moore said it would be rather awkward if they had to ask all their customers if they required their drugs according to the B.P.—Alderman Brigg: Yes, it would be very puzzling to your customers.—Mr. Moore: They would say, "B.P., Who's that fellow?"—Mr. Randerson: It would not be very difficult to notify the fact on the label.—Mr. Moore added that there had been no intention to defraud. The deficiency was so minute that it would not save him sixpence a year.—The Bench thought there had been a technical breach of the law, but nothing more; there had been no fraudulent or improper motive. A fine of 1s. and costs would be imposed.—Mr. Randerson applied for special costs.—Alderman Brigg: We think you might have been better employed than in running after seidlitz powders, and we shall not give you costs.—Mr. Randerson said seidlitz powders were often prescribed, and it was important that they should contain the proper ingredients and quantities.—Alderman Brigg: That is a matter between you and your employers. We shall not give you costs.—Mr. Randerson: You will allow the Court fees?—Alderman Brigg: Nothing beyond that.

What surprises us is the attitude of the Bench towards the inspector. The magistrates present were Alderman B. S. Brigg, Alderman R. Holmes, Alderman E. D. A. Marriner, and Mr. William Weatherhead.

The remark of Alderman Brigg, in particular, "that the inspector might have been better employed than in running after seidlitz powders," and the decision with respect to the costs of the prosecution, which really results in the West Riding County Council being fined for endeavouring to secure purity and strength in drugs, is not what might well be expected from a bench of magistrates.

We think we have shown very clearly how important it is for the public protection that there should be more regular and exhaustive examinations of drugs than is at present the case. If Alderman Briggs or his colleagues lay on a bed of sickness, and drugs prescribed for them chanced to be analysed and were discovered to be so grossly adulterated as those to which we have referred, we believe these gentlemen would speak in a very different manner about inspectors running up and down to suppress drug adulteration. We can only assume that they do not realise the importance of the subject. Had they done so, we do not suppose they would have uttered such foolish remarks, and been guilty of so ridiculous a decision.

Drug adulteration is a far more serious matter than these magistrates seem to realise. It baffles and renders powerless the skill of the ablest physician, and in place of being an aid to him in snatching a sufferer from the grave, too often thrusts the sick person into it.

## A REMARKABLE BUTTER CASE.

At Nottingham, on November 10th, the adjourned case of Charles Smith, summoned for selling adulterated butter, was heard.—Mr. Jesse Hind (clerk to the County Council) appeared for the prosecution, and Mr. J. Johnstone defended.

Mr. Hind, in opening, said the case had already been before the Bench, and at the request of the defence it was decided to send a sample to Somerset House for analysis. That had been done, and they had a letter from Somerset House, which had been handed to the Bench, stating that from the length of time which had elapsed before the sample was sent, it was impossible for Somerset House to make an analysis of the butter, and therefore they stood exactly as they did before. He thought it was only right to the defendant that he should have present that day Mr. Hehner, the county analyst. He was a gentleman of the greatest skill and he had a reputation as an analyst. He thought that it was no exaggeration to say that he had almost a world-renowned reputation, and especially in the analysis of butter he had been somewhat prominent. He (Mr. Hind) thought it was only right to say this much about Mr. Smith, the defendant. He had made inquiries about Mr. Smith, and he thought he was a most respectable tradesman and it was not the opinion of the officials that he himself adulterated this butter with margarine. All the officials wished to do was to have the law enforced, and in no persecuting spirit in the slightest degree; far from it. Mr. Hehner was prepared to state to the Bench what his opinion was, and to answer any question the Bench or Mr. Johnstone—who represented Mr. Smith—might put to him.—Mr. Hind handed to the Bench Professor Hehner's certificate of analysis, which stated that the sample submitted to him contained 85 parts of butter and 15 parts of margarine.

In reply to Mr. Johnstone, Mr. Hehner said he adopted three methods of analysis. He did not apply the test of the polariscope. If there was margarine under the polariscope there might not be iridescence. The probability is that with the polariscope, if it was not pure butter, you would see some slight polarising?—No.—What is the normal percentage of insoluble acids in genuine butter?—If one can speak of anything being normal in articles that vary so enormously I would say about 87½.—But there is a wide margin above or below that?—Very wide.—Does this test of yours depend upon the percentage of those insoluble acids?—Yes.—87½ is about the normal or average?—Average; it goes much higher and falls lower.—The more margarine there was in butter I suppose the higher would be the percentage of insoluble acids?—Yes.—What percentage did you find of insoluble acids?—90·8.—What do you consider the highest limit you could possibly find in *bona-fide* butter?—*Bona-fide* commercial butter do you mean?—I mean butter that has been made purely from the milk of a cow.—Butter made from the milk of one cow fluctuates more than butter made from cows?—What is the highest proportion that may be found in pure butter?—In pure commercial butter 89 per cent. is a very high figure—perhaps 89·1, perhaps 89·2 are to be met with.—Have not higher percentages been found?—Yes, about 89·4.—Would you say there is no record of any higher percentage than 90 per cent?—There are a great many figures which probably are a great deal higher than that, but I exclude these either because I know for certain they are not worth the paper written upon, or they are not applicable.—What is the highest percentage in pure butter of an accredited analysis?—About 89½. No higher than that?—I doubt it.—And you found how much?—90·8.—What proportion did you find in that butter?—When subjected to the Reichert test it gave a figure of 10·8.—What is the normal?—13½.—That is rather high?—It fluctuates considerably?—Yes.—What is the minimum which has been found in pure commercial butter?—Very good butter, made of a mixture of milk from different cows, I should say about 11 or 11½.—I mean butter made from the milk of more than one cow?—Yes.—You know it is not an offence to make butter from the milk of more than one cow?—I am aware of that.—The Chairman (Mr. Franklin): You mean such butter as would ordinarily come into the market?—Yes.—I don't know why the question is being repeatedly asked. I could see what you mean.—Mr. Johnstone: I really think that is hardly a fair remark to come from the Bench, because the Bench do not know my ground of defence.—To witness: You say that percentage varies considerably?—That figure varies pretty widely in butters which are imported from other latitudes. I have found 17.—What is the lowest figure?—The lowest figure I believe, to be authentic, would be something like 11 or 11½.—Have you never known less than that?—I have heard very frequently of it.—Mr. Johnstone here quoted the experience of several notable analysts, and then proceeded: The amount of volatile acids would vary with the period of lactation of the cow?—That would be so.—If none of the cows from whose milk this butter was made had calved recently that percentage would be considerably reduced?—It might be.—And with these two facts, Mr. Hehner—that there were only seven or eight cows milked by Mr. Smith, and that none of these cows had calved for a long period—you would expect to find a low percentage of volatile acids?—If the cows hadn't calved certainly they would give a low point of figures.—Under the circumstances you would expect to find the percentage of volatile acids rather small?—Yes.—Mr. Johnstone mentioned the case of a shorthorn cow which calved on January 31st 1889, where the percentage was as low as 18·6, and there was a case, he



said, where it was as low as 14·7. There were several cases varying from 14·7 to 18·6.—Witness said he was aware of that.—Mr. Johnstone: If that might be found in one individual cow's milk, if you only had a small number like seven or eight, and all of those under conditions I have mentioned, the quantity of volatile acids you would expect to find would be small—is it just as possible that you would find the percentage low?—I should be sorry to say anything was impossible. I should say it was unpractical farming. No farmer would select cows stale, and if he had only seven he would be a miserable farmer, as the quantity of milk would be so small that he could not make commercial butter.—The Chairman: You could not get seven or eight cows to produce such extraordinary results?—Not once in a million.—Mr. Johnstone: I shall be able to show that only four of these were being milked, and that they were just about being run dry, and that a very small quantity of butter was being made. (To Witness): I understand you to say that as low a percentage might be found without adulteration?—As low figures as that have been found.—Four is a very small number?—Yes.—And if all those four were at the close of the period of lactation you might get results which are abnormal?—Yes.—Have you any experience in the method of mixing butter and margarine?—Yes.—How is it done?—It can be done in various ways. The margarine vendor mixes with a rolling machine.—It is a careful operation?—All butter-making must be done carefully.—It is sometimes done by melting?—Not to my knowledge; not nowadays.—You calculate there is 15 per cent. of margarine in this particular butter?—At least.—What is the difference in the price of butter and margarine?—Butter is 86s. per cwt. and margarine from 40s. to 60s.—And what the difference per pound?—I think 7 per cent. on margarine. It would make about the difference of a penny in the pound?—No; you can buy margarine at 6d. And this butter was 1s. 5d. As a matter of commercial speculation would it pay a man for the sale of a penny in the pound to mix butter?—I don't know what a man wants. If a person has a mixing machine, such as everybody has who has a number of cows, in order to squeeze the water out, he could just as well get margarine in as water out.

Mr. Hind: You have applied all the known scientific tests for this analysis?—I would not like to go so far as that.—You have applied your own? And I think you were the first analyst to introduce a scientific analysis of butter?—I was.—Then you have applied your own test?—I have applied Reichter's test and a new test on which I have been working for years. I may say I have been working at this subject as a speciality for 18 or 19 years.—Having applied these tests, you say that that certificate is perfectly correct?—It is, to the best of my knowledge and belief.—You say that the sample contains 15 per cent. of margarine?—That is my opinion.—And you are still of the same opinion?—Yes.

Mr. Johnstone said as to the figures of the analyst, he was going to call before them Mr. Coleman, of the Nottingham University, and the Nottingham borough analyst, both of whom would say that they entirely disagreed with Mr. Hehner in the figures he obtained. Mr. Hehner had admitted that it was possible lower figures might be obtained, but he (Mr. Johnstone) was going to show that the figures obtained by him were not correct. However experienced an analyst he might be, if he left a large proportion of his work to be done by assistants it was possible these figures might not be as correct an analysis as the analysis of the gentlemen he was going to call before them who had had the means and were equally capable of obtaining a correct analysis of the butter. It had been said that Mr. Hehner had issued a book on the subject. Mr. Coleman had three on analyses, and at the present time had a third work in the press. When he (Mr. Johnstone) called before them these gentlemen who would differ from Mr. Hehner, and carry that further by direct evidence as to how the butter was made and what it contained, coupled with the strong evidence of the character of the two persons, then he should confidently expect that this case would be dismissed with costs as against the prosecution.

Defendant was called, and stated that he had been postmaster at Newthorpe for 30 years, and had also carried on the business of a grocer. He bought a pound and a half of butter of Mr. Wakefield, and sold it just as he received it, believing it to be pure butter.—Mr. Wakefield, farmer, Greasley, and Mary Elizabeth Prudmore, his housekeeper, both declared that the butter they sold to Mr. Smith contained no foreign substance when it left their house.—Mr. J. P. Coleman, Fellow of the Institute of Chemists, Associate of the Royal College of Science, and Senior Demonstrator in Chemistry at Nottingham University, said he received the sample of butter bearing the seal of the County Council, which had not been tampered with. He got identical results with Mr. Hehner under the Reichter test within a point. He considered the minimum proportion of volatile acids obtainable in pure butter to be about 10, and he found in this sample 10·7. He also applied Mr. Hehner's test, and he found the proportion of insoluble acids to be 87·2. He tested in duplicate and the two tests entirely agreed. The average was 87·5. He would call the butter generally a pure commercial butter.—Dr. Truman, borough analyst, said he tested a portion of the third sample. He only examined by the Hehner method, as the quantity was limited, and he found 87·115 of fixed acids. He would have expected, if there had been any margarine in it, a higher figure.—By Mr. Hind: He received the sample from Mr. Coleman on October 25th. It was then perfectly sweet. His figures closely agreed with Mr. Coleman's.—Mr. Johnstone: One analyst is as competent to make an analysis?—If he exercises a proper amount of care. There is nothing mysterious about analysing; it only requires ordinary care.—Mr. Hind: Do you think you were as well able to analyse this sample, on October 25th, say, as if you had had the sample in September?—I think quite so.—There was no perceptible change whatever.—Judge Masterman: Is the adulteration of butter by margarine a chemical or a mechanical process?—That is a question I am unable to answer.—Would the margarine permeate every part of the butter, or would one part be more impregnated than another part?—That would depend upon how it was mixed. If it was mixed by mechanical means you would find the mixture would not be so homogeneous as if it was melted.—If it was melted it would still have to be stirred?—Yes.—So that it would be a mechanical mixture in any case?—Yes.

The magistrates retired before announcing their decision. On returning into court the chairman said he need not say that the Bench had given every attention to this intricate and particular question, and they had come to the conclusion that this butter was adulterated, and they thought that the expert evidence given for the defence was quite consistent with the fact of its being so, because they were under the impression and belief that, whoever mixed the margarine with the butter, it was clumsily mixed, and in all probability one analyst got hold of butter so mixed whereas the other might not have done so. There was no evidence to show that defendant himself was cognisant of the fact that there was any margarine in the butter, or else undoubtedly they should have visited a fine upon him, which would have been a severe punishment. As it was, they thought a comparatively small fine would meet the case, and he would be fined two guineas, and they should allow costs not exceeding three guineas. That he would have to pay also. He would like to add one more word, inasmuch as this, that the costs would in all probability have been very much higher had they allowed the whole amount. One word he had to add as a caution that would be applicable to all tradesmen in defendant's position: If they took a guarantee from whoever they might buy their butter from, there would be no difficulty then, and the responsibility would rest upon the people who supplied the butter, whoever it might be.—His Honour Judge Masterman said he should like to add—and in what he was about to say he believed his brother magistrates concurred—that they were not satisfied on the evidence that this butter was Mr. Wakefield's butter.—Mr. Johnstone gave notice of appeal. The fine was £2 2s., with costs not to exceed £3 3s.

# CHAMPION'S MUSTARD

MANUFACTURED AND MILLED FROM

## MUSTARD SEED ONLY.

CHAMPION & CO., so far as they are aware, are the only makers of importance who

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CHAMPION & Co. confine their attention to selling only Genuine Mustard Flour, milled and manufactured from Mustard Seed. They frequently sell 20,000 tins of such Mustard in a day in London alone.

To make CHAMPION'S Mustard, it is essential to use only the finest Mustard Seeds, inasmuch as chillies or ginger cannot be employed to produce pungency, nor can turmeric be utilised to secure high colour; consequently ripe and perfectly-coloured Mustard Seed only can be used.



## HOW FROZEN BEEF IS THAWED.

MESSRS. NELSON BROTHERS, of the Commercial-road, London, have perfected a process whereby imported frozen meat can be safely fitted for the market. A chamber is provided with double doors, one being very thick, to exclude the outside air as far as possible. The chamber, which has no windows, is fitted with electric light. The beef hangs in rows on hooks, over a slightly raised open platform, with a canvas curtain at the back. Beneath the platform there is a series of steam-pipes, and behind the curtain there are pipes filled with compressed ammonia, as in the ordinary freezing processes. The steam-pipes produce a current of warm air which envelops the meat. As soon as the current reaches the top of this chamber it is drawn to the freezing-pipes, behind the curtain, all the moisture being frozen out of it on to the pipes. It accumulates there in the form of snow, which has to be scraped off the pipes from time to time. During the five days' process of thawing of thirty quarters of beef about 168lbs. of water is extracted, though the meat itself loses only 1 per cent. in weight. The canvas curtain divides the ascending warm current from the descending cold current. The effect of this incessant passing of the air first over the steam-pipes and then over the freezing pipes is to free it from all moisture, and produce the "warm, dry air" which is so necessary. At first the temperature of the chamber is almost at freezing point, but the steam is turned on gradually, and on the fifth day the temperature of the chamber reaches that of the outside air. When this is attained the frost has all been thawed out of the meat, and it is ready for the market.

EXCESS WATER AT SPIRIT RATES.

FRED WHITAM, Worrall, was charged at Sheffield, on November 15th, with having sold adulterated milk. An inspector purchased some, which on being analysed was found to have been deprived of one-third of its natural cream. Fined 20s.—George Marrison, landlord of the Norfolk Arms, Carlisle-street, was summoned for having sold whiskey containing 28·7 parts of water beyond the minimum legal strength. He pleaded guilty and was fined 20s.—Christiana Wainwright, of the Dog and Partridge, Attercliffe-road, was fined 20s. for having sold whiskey containing 26·7 parts of water beyond the minimum legal strength.—John Roberts, landlord of the Queen's Hotel, Saville-street, also appeared for a similar offence. He had sold gin which contained 12·4 per cent. excess of water. Fined 20s.

James Haynes was fined £1 and costs at Ripley for selling brandy adulterated with 13 per cent. of added water.

## DUNDEE COMMISSIONERS AND MILK ADULTERATION.

AT a meeting of the Sanitary Committee of Dundee Police Commission on November 13th, the question, of milk adulteration was under consideration, and a detailed analysis of four particular quantities was submitted. While the committee were of opinion that these cases were censurable, they did not think they should be prosecuted in the meantime, but they remitted again to the sanitary inspector to take further samples and to have them analysed and report. It was mentioned that the milk of cows suffering from tuberculosis was believed to be sold within the burgh, and strongly urged that some remedy should be provided against this, as it was a pregnant cause of disease, especially among the young. A remit was made to the medical officer, the veterinary inspector, the sanitary inspector, and the convener to investigate fully and report.

## SPENT GINGER PROSECUTIONS IN LIVERPOOL.

WILLIAM BEATON was fined 10s. and costs at Liverpool for having sold to Inspector Baker, on October 23rd, a quarter of a pound of ground ginger containing 35 per cent. of foreign matter.—A similar penalty was imposed upon William Shaw, Springfield-street, for selling ginger adulterated in the same manner to the extent of 45 per cent.—William Harrison, for selling ginger with 60 per cent. of worthless residue in it, was fined 20s. and costs.

## OPIUM ADULTERATION.

A CONSULAR report from Tainau says: "Sesamum seed-cake is now quite out of use for opium adulteration, being supplanted by 'Tientsin' cake, a repulsive preparation of boiled-down skins and all kinds of refuse of a gelatinous nature, to which, in boiling, has been added opium pod, stalk, husk, etc.—in fact, anything that would impart to it the taste or smell of opium. Its use for the adulteration of opium is increasing—last year two or three parts of the cake to seven or eight of opium; this year three or four parts of the cake to six or seven of opium. Is imported under the name of medicinal cake mostly by foreign vessels, but to some and to an increasing extent also by junks. The poorer classes buy a mixture of nearly equal parts of opium and and "Tientsin" cake. The cake is sold by the dealers with each chest of opium, the adulteration being done by the wholesale dealers in prepared opium, and again by the retail dealers."

## A SEVERE CASE.

Two weeks ago I was summoned to the bedside of Djoahanne Sdtleometzhlr. The involute and labyrinthine tangle of his symptoms made me suspect at first that he had absorbed his own name. But further examination convinced me that he was the victim of typhomalaripneumophthisicotrychinotetanootaxione-phreticosplenitis. Owing to the ubiquity of pathogenic bacilli, antiseptics are always indicated, so I exhibited calcium betanaphtholalphamonoosulphonate. As the patient suffered from severe non-localised pain I gave orthooxyethylanamonoberzoylamidoquinoline combined with salicylaldehydmethylphenylhydrazine. For his insomnia I gave trichloraldehydphenyldimethylpyrazolene.

His wife asked me what ailed him and what I was giving him. I told her, and she said "yes," and turned very pale.

Upon examining him on the next morning I became convinced that the vital forces had misconstrued the remedies, and that a congerie of retro-absorptions had resulted. I then wrote out the following prescription :

R. Tetrahydrobetanaphtholamine,  
Sodium thioparaloluidinesulphonate,  
Orthosulphamidobenzoic anhydride,  
Amidoacetoparaphenetidine aa 3 j.

M. Sig. A teaspoonful every hour.

When the wife presented the prescription to the druggist he instantly dropped dead! The patient is up and about, but something is wrong with his Broca's convolution—he mutters in a multisyllabic lingo that is intelligible only to modern pharmaceutical chemists. I am in hiding where the spiral melody of the woodbine that twineeth blendeth ever sweet, low, soothing, murmurous quadrisyllabic rhythmic rune of the gentle polygonum punctatum.—Dr. Cooper, in the *Medical Gleaner*.

## THE EFFECT OF TEA AND COFFEE ON DIGESTION.

PROFESSOR SCHULZENSTEIN, has made a series of experiments to determine the effect of tea and coffee on digestion. Employing an artificial gastric juice, the professor was able to ascertain that 94 per cent. of coagulated white of egg was digested in eight hours, but that when the albumen was mixed with tea only 66 per cent., and when mixed with coffee only 61 per cent., was digested; the digestibility of the food being found to vary according to the strength of the decoction of tea or coffee added.

THE MANCHESTER COUNTY COUNCIL AND THE  
SELECT COMMITTEE ON ADULTERATION.

THE Manchester County Council have agreed to the appointment of a joint committee selected from the members of the Produce and the Chemical Sectional Committees, for the purpose of preparing evidence to be laid before the Parliamentary Committee on the Food and Drugs Act.



# CARNRICK'S BEEF PEPTONOIDS (POWDER)

THE MOST CONCENTRATED AND NUTRITIOUS FOOD IN THE MARKET.

"It would take 80 pints of Beef Tea made from 80 lbs. of steak to obtain the flesh-forming constituents present in one pound of CARNRICK'S BEEF PEPTONIDS."—PROF. STUTZER, BONN.

# CARNRICK'S LIQUID PEPTONOIDS

(BEEF PEPTONIDS ENTIRELY DIGESTED AND DISSOLVED).

**A DELICIOUS NUTRITIVE CORDIAL.**

**A MOST VALUABLE TONIC, STIMULANT AND FOOD.**

"A very powerful Tonic and Stimulant."—*Lancet*.

Also Carnrick's Liquid Peptonoids with Coca, and Peptonoids, Iron and Wine.

**CARNRICK & CO., Ltd., 24 & 25, Hart Street, Bloomsbury, London.**



## ADULTERATION PROSECUTIONS.

CHARLES WRIGHT was summoned at Bow-street by the Strand Board of Works for selling milk to which at least 20 per cent. of water had been added. Mr. Vaughan fined him 10s. and 12s. 6d. costs.

Emma Bleakley, Brightmet, was fined 5s. and costs at Bolton for selling adulterated milk on October 24th, to Mr. Spencer, inspector under the Food and Drugs Act.

Albert P. Pingstone was summoned at Bristol for an offence under the Food and Drugs Act. P.-c. Norris deposed that on October 17th, he bought of the defendant some beeswax, for which he paid 1s. 4d. Inspector Fletcher produced the report of the city analyst, stating that what was sold as beeswax was solid paraffin with a little fatty matter, coloured with coal tar dye, worth about 5d. a pound. The defendant was fined 20s. and costs.

At Portsmouth Police-court on November 14th, Mark Streten, St. Mark's Dairy, Stamshaw, was summoned for selling milk adulterated with 5 per cent. of added water. Dr. Mumby, the medical officer of health, said that if the milk was taken from one cow the water might be accounted for by the poorness of the animal's living. A fine of £1 was inflicted, to cover costs.—Arthur Bowring of 45, Elm-road, Landport, purveyor of milk, was summoned for abstracting cream from his milk. The medical officer's analysis showed that 8 per cent. of cream had been abstracted.—Mr. Allen mentioned that defendant said he bought his milk from the Petersfield Dairy Company, and sold it exactly as he got it.—There were two previous convictions for similar offences against him, and he was fined 40s.

Alfred Edwards, Crossway Green, Hartlebury, was fined 7s. and 13s. costs, at Droitwich, on November 8th, for selling to Sergeant Williams butter containing 40 per cent. of margarine.

At Margate on November 10th, William Walter Neame, was summoned by Mr. Hogbin, sanitary inspector, for selling adulterated milk. Fined 40s. and 12s. costs.

At Marylebone on November 19th, the St. Pancras Vestry prosecuted Walter Harding (trading as Wale and Co.), grocer, of 225, High-street, Camden Town, for selling to the prejudice of the purchaser  $\frac{1}{2}$  lb. "cocoa" which was found to be adulterated with starchy matter to the extent of 20 per cent. and sugar to the extent of 30 per cent.—Mr. Ricketts, solicitor, was for the prosecution. The facts having been proved the defendant said "he did not recognise the word 'cocoa' in his business. He sold chocolate powder or cocoa essence."—Mr. Plowden fined the defendant £5 and costs for having sold a "wretched mixture" instead of cocoa, the article asked for.

At Kanturk, Sergeant Francis Hutchinson, inspector under the Food and Drugs Act, summoned Mrs. Julia Murphy, of Ballyhoohihan, for adulterated milk. The analyst's return showed that the milk had been deprived of its proper amount of fat by at least 30 per cent. The defendant was supplying the Kanturk Condensed Milk Factory with milk. The magistrates inflicted a fine of £2 and £1 costs.

Charles Hide, grocer, Rushden, was summoned at the Hereford Petty Sessions for selling  $\frac{1}{2}$  lb. of coffee adulterated with 70 per cent. of chicory. Thomas Johnson, inspector of Weights and Measures, proved the case and produced a certificate showing the coffee was adulterated with 70 per cent. of chicory. The defendant was fined 12s., including costs.

## MILK ADULTERATION IN DUBLIN.

Gerald Fitzgerald was fined 10s. for adulterating milk with 10 per cent. of water. Inspector Lyons proved the case.

## MILK ADULTERATION IN NOTTINGHAM.

WILLIAM HINCKTON, Nottingham, was fined 20s. on the 14th inst. for selling to Mr. Charles Copley, inspector under the Food and Drugs Act, milk adulterated with 10 per cent. of added water.

## THE MARGARINE ACT.

ON November 15th, at the Harlesden Petty Sessions, Walter Gerbury, of 113, Allbut-road, Kilburn, was summoned for exposing margarine for sale without being labelled, and for selling it without a proper label on the wrapper.—The Bench fined the defendant 10s. and costs.

## EXCESS WATER IN BUTTER.

At the Tralee Petty Sessions on November 12th, Sergeant McGovern, inspector under the Food and Drugs Act, summoned a farmer named John Rohan for offering for sale butter containing an excessive quantity of water on October 13th. The analysis by Sir Charles Cameron testified that the butter contained 21.08 per cent. of water, the standard being 16. The magistrates imposed a fine of 21s.—Catherine Kiely was fined 10s. for a similar offence. The analysis in this case testified that the butter contained 18.67 per cent.

## THE SELECT COMMITTEE ON ADULTERATION.

## CONTINUATION OF MR. JAMES LONG'S EVIDENCE.

XXI.

(Continued from page 368.)

MR. KEARLEY: That is allowable, I believe, in countries where they forbid the mixing of margarine and butter in the process of margarine manufacture?—Yes, it is in Denmark, where they allow 6 per cent.—Where they object to butter and margarine being mixed, they do allow that margin of butter to be absorbed in margarine by reason of mixing the cream in the process of manufacture?—Yes, and they allow of colouring also which results from the mixing. The author of the Danish law was, to a very large extent, Professor Segelcke, who has a great reputation in Denmark. He took me to see how the thing worked in the retail shops in Copenhagen. The retailer sells butter and margarine in the same establishment, the margarine all being exposed in oval tubs; and he said that the bulk of his customers, or rather those who bought the cheaper kinds of butter preferred to buy 2lbs. of margarine and 1lb. of butter; and in that case he always presented them with a small capsule of colouring matter with which they made the mixture at home. That is the practice really of the lower middle classes in Copenhagen; they make their own mixtures.—Sir Walter Foster: They make their own mixtures of margarine and butter?—Yes.—And they colour it?—Yes, with the colour presented gratis.—Have you anything to say about the prices in Paris and London comparatively?—I have referred to the prices in Paris already; and I made the remark, which I meant to have made here if I had not then been called upon, that it is impossible for the French exporter to sell the highest class of butter in our market at the price that he does when the prices in Paris rule so high.—Have you anything to say about the prices of butter generally?—I have some evidence upon that point. I have here an estimate made last year by the American statistician, Mr. Dodge, that the average price of butter in Denmark was 1s. (that is for the year); in France 11½d.; in Sweden, 11½d.; in Norway, 12½d.; in Australia, 10d.; in Holland, 11d.; in Germany, 11½d., in Belgium, 11½d.; in the United States, 8½d.; and in Canada, 9½d.—Sir Mark Stewart: What is it in this country?—I have not got that for the same year; because it is practically impossible to give any English price at all. The price as quoted in the papers and in the Agricultural returns I look upon as being worthless, because our market is so essentially small. Butter sold in England is principally sold by retailers in the country towns; the butter sent to London is very small in quantity.—The Irish butter comes over in large quantities, does it not?—But the Irish have their own quotations. I can give you them.—What is the Irish average?—I am coming to that presently.—Sir Walter Foster: Passing on now to the output of margarine on the Continent, can you give us any figures on that point?—I have data here provided by the President of the French Commission, to whom I have already referred, M. Guillemin. In speaking of the margarine trade, in Holland, he says that the amount imported from America was 17½ million kilogrammes; from France 7½ million kilogrammes; from Austria 8 million kilogrammes; from England and Germany 3½ million kilogrammes; yet the French Customs returns for 1886 only give a total export of 4½ million kilogrammes of margarine to all countries.—Sir Mark Stewart: What is a kilogramme?—Two-and-a-quarter pounds.—Mr. Channing: Can you give the totals?—I will give you the totals of margarine and margarine oil imported into Holland. But, first, may I quote to you this statement of Mr. Dodge, to whom I have referred already, and who says that "the total exports of oleo-margarine oil amounted in the past year" (that is 1891) "to 18,000,000lbs."—Mr. Kearley: Into Holland alone?—From America, a large portion of which went to Holland.—Mr. Channing: To all countries?—From America to all countries, but the bulk went to Holland.—Mr. Bolitho: Holland is the great mixing centre, is it not?—Yes.—Mr. Kearley: Holland is the great margarine manufacturing centre, not necessarily a mixing centre?—It is the great centre from which they send the raw material as well as the mixed material.—But, I think, perhaps, that Mr. Bolitho, did not quite understand that Holland is the great margarine manufacturing country?—Yes.—Not necessarily the mixing centre?—No.—Sir Walter Foster: Then the import of this enormous quantity of margarine into Holland, or some other cause, has reduced the butter sale, has it not?—I think it has.—And has increased the sale of impure butter?—Yes, and has decreased the price, of course, for pure butter. In a pamphlet of my own, written in 1892, I say, "During the past ten years the average price of butter has been 8½d., during the preceding ten years it was 9d., whereas in the ten years between 1861 and 1870 it was 11½d." This is in America. "Mr. Dodge" (to refer to him again) "does not consider that these prices suggest any bar to continued participation in the markets of other countries, but adds that the average cost of butter imported into England in 1889 was 11½d. per pound, while the exports from America averaged only 7d., and yet he is himself paying 1s. 8d. for butter for his own use." That is in New York.—Mr. Whiteley: Have not the price of all commodities besides butter been falling during that time?—I am afraid they have for agricultural produce. "During the six years 1884-1889 there was an annual average export of 40,000,000lbs. of the oil, and



from one to two million pounds of imitation butter, while in 1890 the aggregate export of these articles reached 70,000,000lbs." That is for the United States.—Sir Walter Foster: Have you anything more to say about Holland and the Dutch with reference to this matter?—I have an important paper upon the exports of Holland which I have got out for the years 1885 to 1892. In 1885 the butter exported amounted to 307,000,000lbs.; in 1892 it had fallen to 141,000,000lbs. In 1885 again the export of margarine was 772,000,000lbs.; in 1892, that is seven afterwards, it had increased to 1,196,000,000lbs., so that continuously with the fall in the export of butter from Holland to this country there had been a rise in the export of margarine. Then from 1877 to 1887 the imports of tallow and lard into Holland rose from 25,000,000lbs. to 72,000,000lbs., the total in the five years imported being 159,000,000lbs. I think I have in this little work of mine that the exports of imitation butter, or margarine, from Holland to this country are equal to about 5lbs. per head of our population per annum.—Sir Mark Stewart: That exportation of 5lbs. of margarine per head of our population was from Holland alone?—Yes, from Holland alone.—Sir Walter Foster: With reference to Danish exports, they are affected a good deal by the Danish laws, are they not?—I believe they are.—Have you anything to say about them?—In the eight years from 1878 to 1885 the Danish exports increased from 14,000,000lbs. to 35,250,000lbs.—Have you anything to say about the registration of sellers of margarine, or the licences of the United States in connection with that transaction?—In the United States the Federal Government requires that each person selling margarine shall take out a licence; these licences, costing from 48 to 600 dollars; that is in proportion to the trade, whether they are retailers, manufacturers, or merchants.—That licence system, you think, has a good effect in preventing fraud?—It has a most important effect, so the Commissioners assured me.—How would it affect butter dealers?—I am afraid that I cannot give you a very distinct answer to that question. I believe that the fact of a person being registered, and paying a licence, has an important influence upon his trade.—Would it require a man selling butter, if he dealt in butter and margarine as well as butter, to have a licence for selling margarine, or would it only apply to the manufacturer who introduced the article and sold it to him?—I am afraid that I cannot answer the question.—Have you anything to say about the working of the existing laws with reference to samples in the past few years?—Two years ago the British Dairy Farmers' Association took a number of samples, and we did so again recently. On the first occasion several of the samples taken were analysed and found to be adulterated; but recently one lot of seven samples taken contained three which were mixed with margarine in accordance with the certificate of the analyst.—There was a special case at Gloucester, was there not?—That, I think, has been already dealt with by Mr. Embrey or by Colonel Curtis-Hayward. I had intended to refer to that.—Have you any other instances to give us?—I think that those persons who in retailing those materials use the marble screen upon their counter should be particularly looked after. It is part of the appurtenance or fitting of a butter shop; and if a customer goes into a shop and asks for half-a-pound or a pound of butter, they go behind the screen to make it up with their patters. I believe that there the mischief is done, because they have in the left-hand corner a large lump and in the right-hand corner a similar lump, and they can take a piece from each and make a blend of it on the spot, and hand it to the customer. If it is a child or an old woman they can make it up with a larger proportion of margarine, and if it is a person who may be an inspector, or a suspicious-looking individual, they probably make it up pure. But the marble screen is unquestionably a thing that ought to be done away with, or inspection kept very close upon it.—Mr. Whiteley: Might they not according to Act of Parliament be of a certain shape or form?—I do not suggest that, but I think that when a person is buying an article of food, it should be made up in the open. Unless a man has something to be ashamed of, he should not make it up behind the marble screen.—Mr. Bolitho: I suppose that the mixing would be done in a very imperfect way?—No; you can make it up on a marble slab before the customer; it is commonly done. But the butter shops invariably have these marble screens, and it is about the only ornamental material on their premises.—Sir Walter Foster: Have you anything to say about a seizure that was made in Constantinople?—Yes; I refer to that to show how possible it is to seize a very large quantity of an adulterated article in transit. In this case 600 casks were seized and analysed, and found to be margarine, although they were offered for sale as pure butter.—Seized by the Turkish authorities, do you mean?—Yes, seized by the Turkish authorities; that is only just recently.—Mr. Kearley: Was that in course of transit to England?—It was in course of delivery to the merchants in Constantinople.—For re-shipment to England?—I could not say that.—It is not regarded as an exporting point at all?—No, it is what might occur in this country.—Sir Walter Foster: I think you have something to say as to the possible failure of detection by analysis?—On that point I should like to refer to the opinion of one very eminent man, and to facts which were ascertained by two others. Duclaux, who is the first chemist with regard to dairying in France, says in the "Journal de l'Agriculture" of Paris, that he obtained analyses of butter from Isigny, from Calvados, from Orne, from Prevalaye, and from the department of the Meuse, and that he obtained the proportions of volatile fatty acids which, expressed in butyric acids, varied from 4.54

per cent. to 7.04 per cent. In the butters of Isigny and Calvados the range was from 4.90 to 6.03; in the butters of Valognes from 5.58 to 6.19; in the butters of Cantal from 5.41 to 7.04. The average of 28 analyses was 5.63 with a range of 2.5 for a maximum equal to 7 per cent. Thus it is possible to take a sample of Cantal butter furnishing by analysis 7 per cent. of volatile fatty acids, to mix 23 per cent. of margarine, and to produce a mixture which by analysis would show 5.4 per cent. of the same volatile fatty acids; and that is to say, as much as is found in the butters of Cantal. And he says further, that to the pure butters of Isigny (that is the best butter in France) you could similarly add 19 per cent. of margarine, and bring them within the range of fatty acids recognised by the chemist.—So that practically the working standard of analysis of butter can in all these cases be approached by an adulteration varying from 19 to 23 per cent. of margarine?—Yes, as in these cases. The point that I should like to impress upon the committee is this: that taking the volatile fatty acids of margarine as 1 per cent., and the range of the same fatty acids in pure butter as from 4.5 to 7 per cent., it is possible by taking a butter containing a high percentage of volatile fatty acids, to mix it with margarine, and to present a mixture which would come within the range of from 4.5 to 7 per cent.—You have, I believe, made mixtures yourself, and analysed them? Yes.—Can you give us some narrative of your own experiments?—I hardly know how to approach the point, because it reflects upon chemistry; but to put it briefly, my experiments have been carried out to this extent. I have mixed pure margarine, that is to say, margarine containing the minimum quantity of butter fat, with butter made in my own dairy, and these mixtures have been subjected to analysis with the result that in no single case has the exact figure been given, although in several cases the difference between the actual mixture and the analysis was consistent; there was the same difference in each case, and that was with one chemist.—Mr. Channing: How many test cases did you take?—Last year I took five, and the quantity of butter and margarine mixed was in one case 50 per cent., in another case 33 per cent., in another case 25 per cent., in another case 12½ per cent., and in another case 33 per cent.—Sir Walter Foster: Those mixtures were made by you?—Yes.—And they were not detected by this chemist to whom you refer?—No, I did not quite say that; they were detected by one chemist, although his figures did not agree with mine; but they were consistent with each other. The difference was the same in every case.—Were the cases in which he detected it those in which the larger percentages of margarine were added? No; there was the same difference in each case.—In all the specimens?—Yes.—Mr. Channing: Were they all done by the same chemist?—Yes.—Mr. Kearley: Did he detect margarine in every case?—Yes.—He diagnosed margarine in the case of 12½ per cent.?—Yes.—In every case?—Yes.—There was variation, although the variation was the same in each case.—Mr. Whiteley: What was the lowest percentage of margarine that you put in?—Twelve and a-half per cent.—And he detected that?—Yes.—He did detect 12½ per cent.—Yes; but I should tell you that the butter mixed with the margarine was not specially selected because of its percentage of fatty acids.—Sir Walter Foster.—Then you did not make your mixture so scientifically as it would be made by a person desirous of committing a fraud?—No.—He would calculate the amount of fatty acids previously?—Yes.—And add the margarine in proportion?—Yes.—Sir Mark Stewart: Did he detect the amount of margarine in each case, or approaching it?—I can give you the figures.—Sir Walter Foster.—Can you give us the name of the analyst?—I do not want, if you will excuse my saying so, to fix the chemist.—Can you give me the figures without giving the chemist's name?—I think he would fix it himself in that case. In the highest case the analysis was 40 per cent. of margarine.—Mr. Mark Stewart: What was the actual amount?—Fifty per cent.; and there was a similar difference in every case almost.—Mr. Channing: It was about 20 per cent. less; was it a uniform drop in the analysis in each case?—It was uniform in proportion to the actual mixture.—Therefore the analyst was, if anything, over fair to the adulterator?—Perfectly fair to the adulterator.—Sir Walter Foster: Have you anything to say upon this point?—If you will permit me, I should like to finish this matter by reference to some experiments made by the French.—Certainly?—This is a report made by two French chemists, M. M. Maurice Boucherie and Jules Le Conte, upon the adulteration of butter by the use of margarine. These gentlemen were appointed to do this work, and they say: "We have sent to the two first laboratories in Paris, directed by men of great competence and skill, two sets of fifteen samples of identical butters prepared by ourselves, the one set pure, and the other set mixed with margarine. They came from Normandy, from the Ardennes, from Allier, and from Midi. We have asked at the laboratory first for the chemical analysis properly so-called, and secondly for the determination in the fatty matter of the proportion of volatile fatty acids present, and the fixed or insoluble fatty acids." Then they say: "not only have the replies sent from each laboratory with regard to the same samples not been in accord, but in several cases the volatile acids were superior in the margarine samples to those found in the pure butter, from 15 to 20 per cent. Besides, each series from one laboratory was characterised by figures which were relatively high as regards the margarine. The average of fifteen samples, of which 10 contained margarine, was 7.15, while in the other case, also an average of 15 samples, the result was 4.69."—Of fatty acids?—Yes; or only two-thirds of the volatile fatty acids found in the other samples?—That appears to me to be quite conclusive, because it is dealt with by very competent men who are themselves criticising



chemists of the first eminence.—Mr. Kearley : Can you sum up what you meant to convey to us by that ; it is rather technical ?—Fifteen samples were sent by two chemists to the two principal laboratories in Paris, and they asked them, first for the analyses, and secondly for an account of the percentage of the volatile and fixed fatty acids.—With what object was that ; that is a point that I cannot quite follow. It was to deduce something ; they were going to arrive at some result by deduction ?—As I explained just now, margarine may be taken to contain about 1 per cent. of volatile fatty acids ; I do not speak as a chemist, because I am not a chemist, but I know, as a fact, that margarine contains about 1 per cent. of volatile fatty acids, and butter contains from  $\frac{4}{5}$  to 7 per cent. ; therefore, a chemist, in determining what a sample is, is guided principally by the presence of volatile fatty acids. Accordingly, if you add margarine containing 1 per cent. in a certain proportion to butter containing a high percentage of fatty acids, say, 7 per cent. or  $6\frac{1}{2}$  per cent., you can still come within the range permitted, from  $\frac{4}{5}$  per cent. upwards. Then the result of this was to show that of 15 samples, 10 of which contained margarine, one laboratory showed an average of 7.15 per cent., while the other showed, for identically the same samples, 4.6 per cent.—Sir Walter Foster : This illustrates the variation in analysis by competent experts ?—Yes, it does by competent experts.—Therefore, it tends to show the difficulty of detecting these frauds when they are skillfully perpetrated ?—Yes.—I think that concludes that point, does it not ?—Yes.—Now about the colouring, what have you got to say about colour, and its use in checking frauds ?—It may appear that I have given my case away by referring to these analytical difficulties, but, I think, remembering that fact, it is impossible to entirely check or to check the sale of margarine as butter, unless you provide that it shall not be coloured ; that, as in Denmark, it shall contain no other colour than that given to it by the small quantity of milk added to it in the process of manufacture.—The colour of margarine under those circumstances would be very pale, would it not ?—Yes.—Is there not growing up a taste for pale coloured butter in this country ?—No, I think not.—Do you think that the coloured butter is still more popular than the pale butter ?—Yes.—And that the popular taste would be sufficient protection if margarine were not allowed to be coloured ?—Yes, I think it would be.—Can you give us the result of any experience in Copenhagen about this ?—I should like to hand in these samples of colouring (*handing in the same*).—Mr. Kearley : They definitely fix one of these colours in Denmark by Act of Parliament, do they not ?—Yes ; No. 9, it is in the Act.—Not by an Order in Council ?—No, by Act of Parliament. The point in this case is that when the inspector takes a sample of margarine to compare with those coloured charts, he can take a slice from a butter tub, or he ought to do so, I should say, and compare it. It will be recognised by the Committee in a moment that a large quantity of lightly coloured fat, like margarine is in that case, present in a tub would look much deeper in colour than if it were taken in the form of a thin slice, therefore the manufacturer and retailer in Denmark has the advantage that he is able to sell a deeper coloured margarine than he could do under proper conditions. What I suggest is that in that case if the same plan were adopted in England we should not permit the inspector to take his colour from the bulk but from the material, taking a fair slice, say half an inch or an inch thick, because there is a great difference between the two.—Sir Walter Foster : In that way you think that he would be able by a scale of colours like this to separate the palest coloured butter from the highest coloured margarine ?—Yes, I do. Then, again, there is no real comparison between the two articles. Margarine which is pure and uncoloured, and butter, are essentially different in colour. An uncoloured butter is sometimes much whiter than margarine, but the whiteness is not at all similar to the colour of margarine which is pure.—That is to the skilled eye ?—I think to the public eye, to the continual buyer.—Then the prohibition of the colouring of margarine would be, in your opinion, a sufficient check to adulteration ?—In conjunction with the prohibition of mixing.—You would require the two ?—Yes.—What is the result of the Danish law in that respect ?—The Danish law has resulted in this, that the public practically buy all the margarine that they require in its natural colour ; that fraud has been reduced to a minimum ; that the export of margarine is very trifling indeed ; that the butter trade has had a continuous upward movement although prices have fallen all the time, and that the public are perfectly satisfied.—Then you would obtain this disadvantage, would you not, that all uncoloured butters would practically be unsaleable ?—I do not think so at all.—Do you think that uncoloured butter under these circumstances, when it approached the colour of margarine, would be looked upon with great suspicion in the shops ?—I do not think so. Uncoloured butter, it may be observed, is very seldom seen ; it is an article that you do not see in London ; you may have to search a long time to find a single pound of it, and in country shops it is only found in winter, and then only in small quantities, because the most ignorant farmer has long ago been acquainted with the fact that he has only to add a Guernsey or Jersey cow, or a red pole to his herd, to improve the colour of his butter, and he does that because he knows that it improves the colour which the consumer likes as well as the quality.—Mr. Kearley : They use annatto as well, do they not ?—I believe

it is going out ; it is very seldom I see such a thing.—Mr. Channing : Do you suggest that the colouring of butter should be prohibited ?—I do not. I think that would remedy itself by the addition of a cow.—Mr. Yerburgh : Have you ever considered the expediency of colouring the vessels in which margarine is imported, or in which it is sent down to the retailer from the manufacturer in this country ?—No.—Do you think that it would be any protection to colour the tubs in which it is supplied ?—If the tub is of a specific shape, as it is in Sweden and Denmark, I do not think that it would have any influence, the shape is so easily recognised ; it is oval in Denmark, and oblong in Sweden.—Mr. Kearley : Is it not the fact that the margarine manufacturers imitate all the butter manufacturers ?—Yes, and they are willing to send you anything you like.—Either in prints, rolls, or Normandy baskets ?—Yes.—Do not you think that that ought to be prohibited ?—That is the next point that I am coming to.—Sir Walter Foster : Have you anything to say upon this point of colour as to either Danish or French experience ?—It is said that if you prohibited the colouring of margarine you might still be able to buy it coloured, because of the difficulty of distinction ; but I would say that if margarine is uncoloured, and is made in factories which are inspected, and in which mixture is prohibited, it would go certainly from the factory to the wholesale man, and, in all probability, from the wholesale man to the retailers, in its natural condition, in its natural package, and therefore you have a very large guarantee that, in the first place, there would be no mixture at all.—No mixture before it reached the retailers ?—Yes ; and then I think that the retailer would himself be very chary indeed of emptying oval boxes of margarine, and mixing them, on premises which were liable to inspection. I would further say that the colouring enables any seller to-day to sell impure articles to the majority of buyers, the colour alone.—That colour alone practically covers the fraud of selling margarine, or butter and margarine in which there is a large percentage of margarine ; that fraud is protected by colour ?—I think so, I would emphasise the point, because the grocers whom we met in Belfast the other day, and who were very fairly agreed as to most of the points—a certain number at all events—have put forward an objection to the prohibition of colouring, but I have thought it over very much indeed since then, in every bearing, and I cannot but think that that is the one essential point, to prevent fraud ; because so long as the chemists are unable to detect to a nicety the presence of margarine, I do not think that anything else will check it.—So that in the face of the failure of scientific analysis, you believe that a practically efficacious method of checking adulteration is to be obtained by preventing the colouring of margarine ?—I do, especially after the Danish successes.—Mr. Whiteley : Could you not obtain the colour of butter mixture by mixing butter of a very high colour with margarine by a clever fraudulent dealer ?—So far as I gather your question, I will put my answer in this way : that if you prohibit the colouring of margarine there will be no butter mixed with the margarine. You could not possibly mix butter with margarine, because you would overstep the mark ; you would make your shade of colour higher than the standard shade.—Sir Walter Foster : I do not quite understand you. If you mix margarine without colour with butter, you would not get a higher standard ; you would get a lower standard ?—I do not understand the point.—Mr. Kearley : I think I can elucidate it. I understand you to say that the prohibition of colouring margarine alone would not be efficacious unless it is accompanied by the prohibition of mixing margarine with butter ?—That is so.—Sir Walter Foster : Is there anything that you wish to add to that point ?—I think not.—Mr. Channing : You do not wish it to go down in evidence that you consider the whole system of scientific analysis for the determination of the presence of margarine in any sample to be a failure ?—Not at all, I think that I should accept the analyses of the best experts that we have in almost every instance, some of whom have given considerable attention to the analysis of margarine. I think it is a matter of experience, to a very large extent, although I am bound to say that I think by skilful mixing of the two materials it is possible to puzzle any chemist when the mixture is made sufficiently low.—As to the proportion of margarine you mean ?—Yes ; in fact they admit it themselves. I have letters from eminent chemists here which I could quote.—Sir Walter Foster : About the packages of margarine, you would have them made in a definitely fixed form ?—Yes, for the simple reason that the manufacturers send out circulars actually offering to provide not only any kind of package, basket, box, or tub, but to make up the margarine in rolls, pats, or any shape you like in order to meet your market.—And that, you think, ought to be prohibited strictly ?—Yes, and that they should be required, as in some other countries, to use a vessel of a specific shape.

(To be continued.)

UNDER the title "Fun, Frolic, and Fancy," Mr. Byron Webber has published a collection of short stories and poems, for which Mr. Phil May has supplied illustrations. The stories and verses are well written and amusing, and Phil May's drawings, as usual, excellent. The book is a very good shilling's worth, and is published by Chatto and Windus.



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## Food and Sanitation.

SATURDAY, DECEMBER 1st, 1894.

### SEWAGE FLOODING IN LONDON:

#### GROSS NEGLECT OF DUTY ON THE PART OF THE LONDON COUNTY COUNCIL.

DR. WALDO, medical officer of health to St. George's, Southwark, in a report just issued by him refers to the sewage flooding of basements which occurs in certain parts of London during heavy rainfall, on account of the inadequate system of main drainage, which is unable to carry off the storm-water. He furnishes particulars of twenty cellars where evidence was found of sewage flooding. Two of them were under large butcher's shops. In one he counted twelve large wooden tubs filled with salted pork and beef, besides a quantity of meat, fresh and salted, lying about the cellar. "Sewage had risen to the height of two feet, and some of the tubs, I was informed by the occupier's son, had been floated off their wooden platforms, and a large meat safe had also been invaded." But the worst case of all was a cellar used as a bakery. "Here the master and his journeyman were actually working as best they could in a flood of sewage." The flour sacks, as usual in these places, were standing on a slightly raised platform; but the sewage had risen above the level of the platform, and had fouled the under surface of the sacks and caused the flour to cake together in lumps. "At the same time, it was admitted that the flour from those particular sacks had been made into bread."

The special danger connected with this form of basement flooding is that the sewage is always more or less charged with the specific poison of typhoid fever, and is at any time liable to that of other similar deadly diseases. "It is obvious that such contaminated cellars are unfitted for the preparation of bread or other articles of food, and almost equally so for use as workshops or dwelling-rooms." The responsibility rests with the

London County Council, whose inadequate main sewer on the South side of the river is the cause of the mischief. Mr. Fowler, when president of the Local Government Board, definitely stated in the House of Commons that it is the duty of the County Council to find a remedy for the grave dangers arising from the present condition of things; and several attempts have been made to bring their responsibility home to them, but without practical result. The proper remedy is to lay down a supplementary main sewer to carry off the storm-water.

### THE LATEST IN EXTRACTS IS THE EARTHWORM AS A DRUG.

IN the October number of the *Indian Medical Record* C. F. Britto, L.R.C.P. and S., Edin., of Rangoon, tells of what he has observed and conjectured on the subject of the earthworm (*Lumbricus terrestris*) as a medicine. He relates that some years ago he went fishing and took with him some earthworms covered with wet mud in a cocoanut shell, and that toward evening he returned home with the shell containing the worms, intending to go fishing again the next day. The next morning, to his great surprise, he found that the mud had nearly disappeared from the cocoa-nut shell, and some of the worms had left the shell, while others were still within it, buried in a thick, gelatinous-looking mucus. He appears to think that the worms dissolved the mud, and from this he fancies that these worms must possess the property of dissolving urinary deposits. Unfortunately, he goes on to say, he has not had an opportunity of testing his theory, but intends to do so when an occasion arises, and hopes that in the meantime some of his professional brethren will try the plan and report their results. This is how he means to use the worms: After being dug out of the earth the worms are to be kept in a vessel for half an hour—i.e., "till they have digested all the mud they have eaten." Then ten or twelve of them are to be washed with cold water and boiled for half an hour in half a pint of water, so as to make a soup, and the whole of this soup is to be given to the patient at one dose. The author states that the soup ought to be prepared fresh each time, but he does not say how often he thinks the dose ought to be administered. His closing suggestion is that, if the soup is found to be useful, some of the well-known chemists in Europe and America might prepare an extract of the worms, and for such an extract he proposes the term *Extractum lumbrici terrestris*.

### ONE SHILLING FINE FOR UNSOUND MEAT.

AT Belfast, Charles Cushley and Patrick Mallaghan, 39, York-street, were charged with exposing for sale unsound meat. David M'Master, inspector of food, deposed that he found 94lb. of unsound meat which was unfit for human food in Cushley's shop. The young man Mallaghan told him that he was going to give the meat to the boneman. An order was subsequently made for its destruction. Mr. Donnelly, for the defence, stated that the meat was not for sale, but lying there until the boneman would come for it. Mr. Lewis said the meat should not have been exposed in the shop. A fine of 1s. was imposed on Cushley, and "no appearance" was entered in Mallaghan's case.

### CONDENSED MILK v. STERILISED MILK.

STERILISATION of milk, in addition to its difficulty, is being now recognised as by no means the best way of avoiding infection by milk. To the large number of eminent scientists who have seen fit to question sterilisation must now be added the names of Dr. Dujardin Beaumetz, M. Weber, and M. Maurel, who have recently been investigating the question of sterilised and condensed milks. The results of these investigations have



led Dr. Dujardin Beaumetz, at the Therapeutical Society, to recommend that the French soldiers about to be dispatched to Madagascar should be supplied with condensed milk in preference to sterilised milk. He has grave doubts about the keeping properties of sterilised milk during so long a voyage. M. Maurel, speaking in the light of the results obtained by the use of condensed milk in the Navy and at Saigon hospital, believes that it would be more satisfactory if sterilised milk were no longer employed and condensed milk were to take its place. M. Weber pleaded that sterilised milk was unobjectionable provided the bottles containing it were thoroughly filled. If not so filled churning takes place. The result of the discussion and investigations were therefore in favour of condensed milk, and given a pure condensed milk containing its full amount of cream this treatment of milk certainly appears to be not only the best yet devised, but, in a sanitary sense, the safest.

### CALVES' FOOT JELLY.

#### MADE OF ORDINARY GELATINE FLAVOURED AND COLOURED.

CONSUMERS of this delicacy will find instructive, if somewhat unpleasant reading in some investigations recently made by Mr. J. Carter Bell, public analyst for the county of Cheshire. Seven samples of jelly were analysed, all labelled "Calves' Foot Jelly." The samples varied very much in composition; whether they were made from skins, membrane, bones, or calves' feet it was impossible to say, as all these substances yield gelatine which has very much the same chemical composition. It is not very easy, therefore, to draw the line between glue and calves' feet jelly, but the amount of water in these bought samples varied in a remarkable degree, the lowest amount was 61 per cent. and the highest 83. The amount of nitrogen varied in the same remarkable manner, some containing as low as  $\frac{1}{2}$  per cent. and the highest was only 1.8 per cent. Mr. Carter Bell is of opinion that none of these samples were made from calves' feet, but they were made up of ordinary gelatine dissolved in water, flavoured and coloured. Thus imitation every day enlarges its sphere. There is apparently only one thing remaining impossible of imitation—the incapacity of the Somerset House pseudo-analysts.

### ADULTERATED WINE.

THE authorities are at present trying to suppress the practice of selling, in Paris, wine adulterated with *piquette*, or an inferior raisin wine of the "cheap and nasty" variety. The special chemists who have charge of these investigations have received special instruction to test for this adulteration, in order that the perpetrators may receive condign punishment.

### LINCOLN COUNTY ANALYST'S REPORT.

MR. CHARLES E. CASSAL, the county analyst, in his quarterly report, states that 21 samples were submitted for analysis 20 of which were genuine, and a sample of whiskey was adulterated. The vendor in the adulterated case was summoned, and fined 10s. Supt. Taylor has been appointed inspector under the Food and Drugs Act in place of Supt. Richdale retired.

### ADULTERATION IN KENT.

THE Kent county Analyst reports that of 211 samples received by him only 7.11 were adulterated—the lowest rate reached since 1891. During the quarter only three samples of fertilisers and feeding stuffs were submitted to the district analyst. One of these, a sample of cotton cake, was condemned as unsuitable for feeding purposes, being mouldy, and not made of pure seed. The regulations of the Board of Agriculture appear still to prevent buyers fully availing themselves of the advantages of this Act. The county analyst (Mr. M. A. Adams) has been reappointed for the year.

### PRIMER OF HYGIENE.

By ERNEST S. REYNOLDS, M.D. (Lond.) Macmillan and Co.

ALTHOUGH intended for the use of children in higher grade schools, and for those attending elementary lectures on Hygiene, this little book will be found extremely interesting and useful by the general reader. It is a very good introduction to the subject, being written in simple language and without the use of too many technical terms. Like all the books in this series, it is well arranged and contains 50 excellent illustrations. The appendix of hints for medical and surgical emergencies would prove invaluable in cases of sickness or accident. The price of this book is only 1s.

### AN IMPORTANT JUDGMENT.

AT Burton, before his Honour Judge Kenelm Digby, the case of Osborne v. Wood was heard. The plaintiff is a small shopkeeper, and the defendant is the proprietor of a business known as Wood's Cash Stores, and the claim was for £6 14s., alleged to be owing under somewhat extraordinary circumstances. Mr. Norris Foster, barrister (instructed by Mr. Capes), appeared for the plaintiff, and Mr. Stone was for the defendant. The plaintiff's wife purchased a pound of coffee from the defendant, and gave 1s. 8d. for it. It was to sell again, and she asserted that she sold some of the coffee to a boy sent by the inspector under the Food Adulteration Act, and that when the article was analysed it was found to contain 81 per cent. of chicory. The plaintiff was summoned at the police-court, and fined £3 and costs. He now sought to recover the fine and costs and other expenses, amounting in total to the sum named. It was further stated that the defendant promised to bear half the fine and costs on condition that his name was not introduced into the case, but he afterwards withdrew the promise. The defence was that the plaintiff's wife also purchased a mixture of coffee and chicory, and must have given that for the pure coffee. His Honour, after referring to the conflict of evidence, gave a verdict for the plaintiff for the amount sued for.

### FROM WINE ADULTERATION IN SWITZERLAND.

By DR. G. AMBUHL.

THE wine crop of 1893 was large, but inferior in quality to what was expected from the heat of the summer; the continued dry weather, however, was not favourable to the formation of sugar; and as a result of rather careless treatment, the wine when stored turned sour in several districts the same autumn.

As I have repeatedly observed in previous reports, wines soured or spoilt are more often met with than wines whose bulk has been artificially increased, or which have been adulterated with gallic acid a dill-oil. These latter are often of good quality and wholesome.

In many districts the treatment of wine is not properly understood. It is therefore satisfactory to note that the Enological Institute at Wädenswell has arranged a course of instruction in this subject.

Article 57 of the canton regulations ordains that wine must not contain more than 14 milligrammes of sulphurous acid to the litre. This quantity is so small that nearly all white wines have had to be condemned on this account.

The maximum quantity allowed in wine and beer in Austria is only eight milligrammes; and according to the decision of the Union of Bavarian chemists the quantity should not exceed 10 milligrammes per litre. Nessler asserts that 5.4 milligrammes per litre is sufficient to correct the ordinary defects of wine. We, like the cantons of Thurgovie, Zurich, and Bale, apply in practice the limit of 80 milligrammes; and in view of the intended revision of the canton regulations, we have proposed the adoption of this increased allowance.

A wine merchant declares that he does not sulphur his wine, but makes use of a foreign clarifying substance called "Krystallin Präservator" and similar preparations guaranteed to be free from salicylic acid, but which contains bisulphite of soda.

A white wine, which was treated, according to the directions, with two clarifying preparations, contained, after this treatment, 142 milligrammes of sulphurous acid per litre, and had therefore to be condemned as injurious to health.

A sample of red wine from the Valteline, was condemned for being adulterated with water. The quantity of alcohol (in bulk) was 7.3 per cent.; that of the extract 2 per cent. In fact, the vendor admitted that he made three or four different kinds of wine from the produce of a single vineyard. What must the third and fourth qualities have been like? As a curiosity, we may mention an artificial wine which was found to contain 6 per cent. of alcohol (in bulk) and 0.98 per cent. in the extract, and a total absence of non-volatile acids peculiar to wine. A cask of wine from the Valteline suddenly turned a dark green colour in the cellar of the purchaser. The analysis showed that some soda had been put into the wine; the soda, by neutralising the acids, changed the red colouring matter into green.



**IMPORTANT LARD ADULTERATION CASE.****THE RETAILER SUES THE WHOLESALE DEALER.**

At the Bristol County-court on November 14th, before Judge Austin, the case of *Shepherd v. Gibbons and Company* came on for hearing, and, as will be seen, the question in dispute was one to which considerable interest is attached in the provision trade. The plaintiff was William Shepherd, grocer, of Redcliff-hill and East-street, Bedminster, and the defendants Gibbons and Co., of Counterslip, provision dealers, and the action was brought to recover £39 14s. 6d., damage alleged to have been suffered in consequence of the breach of contract in respect to the sale and delivery of four barrels of lard, which was warranted and guaranteed as pure lard. On April 27th last the plaintiff went to the defendants' premises and ordered the lard, which he was told was pure lard. On the following day he received the goods and the invoice. The barrels were stamped "Pure Bladder Lard—Snowdrop Brand." Inside were pound bladders, and on each bladder there were the words "Guaranteed Pure." Mr. Shepherd sent a portion of the lard to his East-street branch, and an inspector under the Foods and Drugs Act, Joseph Evans, purchased some of the lard. This was analysed and found to be an admixture of pure lard and beef stearine, the latter ingredient being to the extent of 10 per cent. Mr. Shepherd was summoned, convicted, and fined 20s. and costs for selling adulterated lard. In consequence he had suffered damage, which he sought to recover. Having directed the Judge's attention to statutes bearing on the case, Mr. H. Gregory called the plaintiff, who gave evidence bearing out the facts given by him, and said that he was told by the salesman that the lard was pure. He gave particulars of his claim, which included the cost he had been put to in the police-court and other expenses, and said he had lost custom since the proceedings were taken.—Cross-examined: He was aware the "Snowdrop" brand had been sold for several years, but he could not say how long. He believed it came from America and was refined in Belfast. He did not want Belfast lard particularly, but he wanted pure lard. He bought the "Lily" brand some time before and was fined, and he avoided that when it was pointed out to him, and he had the "Snowdrop." He had not heard of anyone being fined for selling "Snowdrop."—Re-examined: During the 17 years he had been in business as a grocer he had never to his knowledge purchased anything but pure lard.—Frederick W. Stoddart, the city analyst, proved that the lard contained at least 10 per cent. of beef stearine; and it was not necessary to mix beef stearine with lard.—Cross-examined: He should say it was three or four years since this class of lard was condemned first. He had heard it given in evidence that stearine was sometimes dearer and sometimes cheaper than lard. He should not say it was injurious to health.—Re-examined: He invariably condemned lard which contained stearine, and pure lard should not contain stearine.

The evidence given at the police proceedings was read over, in which the defendant stated that he had warranted the lard as pure.—Mr. Wansbrough, for the defence, asked the Judge to say that the decision of the magistrates was not correct. Bearing in mind the fact that this lard was soft and very often liquid, it became necessary in order that it should be an article of commerce that it should have something mixed with it not injurious to health. He said as beef stearine was dearer in many cases than lard, it could not be said that it was put to increase the bulk, but it was absolutely necessary to put it with the lard in order to make it firm enough for transit. In its liquid state it was not marketable, and he submitted no offence had been committed by adding something which was perfectly wholesome to an unmarketable commodity to make it marketable. He submitted that Mr. Shepherd could not be successful in recovering.—William Gibbons, one of the defendants, said the "Snowdrop" lard was an American produce, and was refined and stiffened in Belfast. If stearine were not added the essential parts of the lard would have to be taken out to make it stiff. His opinion was that American lard as prepared in this way was the purest lard that could be sold.—Cross-examined: He always looked upon this lard as pure, although he knew there was stiffening in it.—Mr. Gregory addressed the Court, and after some argument on legal points, the Judge reserved his judgment.

His Honour gave judgment on November 20th, and said it was a case which raised an extremely curious point on the measure of damage. The action on the face of it was one of great simplicity, and it was brought for breach of warranty. He went through the facts, and said *prima facie* the measure of damage would be the difference between the lard as valued and the lard as actually delivered; but in consequence of the curious provision in the Sale of Food and Drugs Act, 1875, it became necessary for him to consider matters which in an ordinary way would not fall within his jurisdiction at all, and to consider them with a critical eye, having reference to proceedings in a court higher than his own. His Honour referred to cases which bore upon the question of warranty, and said the magistrates found as a fact that Mr. Shepherd, when he bought the lard, knew it was not pure lard.

It appeared, however, that he had before been convicted for selling impure lard, the Lily brand, and he was annoyed at that, and now tried to get something which was pure, and asked if the Snowdrop was purer than the Lily, and got an answer in the affirmative. It followed that he did not know that it was impure lard, and the result, in the opinion of his Honour, was that there was a verbal warranty of the lard, and there was a breach of that warranty, so that there would be damages recoverable in respect to the breach both at common law and under section 28 of the Act of 1875. He found that the plaintiff was entitled to recover £4 14s. 2d. in respect to costs of fighting the prosecution, £1 12s. 6d. the fine and costs, and £1 general damage, making altogether £7 6s. 8d.

**PROSECUTION CASES.**

At the Barnsley Police-court, on November 21st, Joseph Smith was charged with exposing unsound meat for sale in the Barnsley market on Saturday, the 10th inst. William Waterton, sanitary inspector, proved finding the meat on defendant's stall. Dr. Sadler, medical officer of health, certified that the meat was unsound and unfit for the food of man. Defendant was fined £10 and costs, or two months imprisonment in default.

At South Shields, John E. Lawson, Hebburn, was charged under the Food and Drugs Act with selling milk which contained 12 per cent. of added water. The magistrates dismissed the case, as there was no evidence to prove that water had been added.

In Dumfries Sheriff-court, on November 20th, Peter Burns, aerated water manufacturer, Dumfries, was fined £3 and 22s. 6d. costs for selling three bottles of carbonated water instead of potash water.—Mrs. Janet Thomson, Murray-street, Annan, and Diminico Brucciani, Dumfries, were fined £1, with 22s. 6d. costs, for a similar offence.

Stephen Grogan, Cockspur-street, was fined 10s. and costs at Liverpool for selling adulterated ginger; and a fine of 40s. and costs was imposed upon Stanley Mitchell, for exposing for sale improperly labelled margarine. Inspector Baker brought the cases forward.

Charles Dowse, keeper of the Red Lion, Newbeggin, was charged at Richmond (Yorks) with selling whiskey adulterated 36 per cent. below the requirements of the Act, according to the public analyst. Inspector Hind proved the case, and defendant was fined £1 and costs.

Thomas W. Harris and Mrs. Elizabeth Ellen Harris, the Moat Farm, Worcester, were summoned for selling adulterated milk, on October 9th, to Mr. Sheppard, sanitary inspector. Dr. Swete said that he thought the actual adulteration of the milk was quite 50 per cent., though by the Somerset House standard he could not put it higher than 30. The Bench fined the defendant £5 and £1 9s. costs.

Thomas Frederick Matthews was fined £1 1s. and costs, at Grimsby, for selling milk to Mr. H. F. Moody, inspector under the Food and Drugs Act, on October 31st, which was adulterated with water to the extent of 15 per cent.—Edward Cash, of Victor-street, was summoned for a like offence, the milk being adulterated to the extent of 10 per cent. Defendant was fined one guinea, including expenses.—Charles Bainton, of King-Edward-street, was fined 15s., including costs, for selling adulterated milk, which contained 5 per cent. of added water.

George Huskinson, landlord of the Reindeer Inn, at East Bridgford, was fined £5 at Bingham Petty Sessions, on November 22nd, for selling whiskey to Inspector Storey, which upon analysis was shown to consist of 93 parts of whiskey 25 per cent. under proof and seven parts added water.—William Tinsley, landlord of the Chequers Inn, Cropwell Bishop, was fined £3 on the same date for selling to Inspector Storey rum adulterated with 10 per cent. of added water.

John Goodall, of the Half Moon Inn, Sadler Gate, was summoned at Derby, on November 22nd, for selling gin 37·2 degrees under proof. The case was proved by Inspector Wilkinson. The magistrates imposed a fine of 2s. 6d. and 18s. costs.—Charles Joseph Wells, was summoned for selling rum which was adulterated by the addition of 6 per cent. of added water. Fined 2s. 6d., and costs.—Frederick Fearn, of the Globe Vaults, Irongate, was summoned for selling gin which was 43 degrees under proof. Fined 5s. and costs.—Charles Wallis, of the Old Shakespeare Inn, Sadler Gate, was summoned for selling rum which was reduced by the addition of port wine. The magistrates dismissed the case.

Henry Brown was summoned at Derby on November 22nd for selling unwholesome rabbits. Inspector Wilkinson said on the day in question 25 rabbits were exposed for sale on the stall of the defendant in the open market, all of which were decomposing and quite unfit for human food. Defendant was fined 4s. for each rabbit, making in all £5 19s. to pay.

Jesse Petty, landlord of the Prince of Wales licensed house, Freemantle, was fined 5s. and £1 4s. 5d. costs, at Southampton, on November 22nd, for having, on October 29th, sold to P.S. White gin to which water had been added to the prejudice of the purchaser, the public analyst (Mr. A. Angell) certifying that it was 38·71 under proof.—John Keffen, tradesman, of Fourpost-hill, pleaded guilty to selling cocoa which was adulterated with 55 per cent. of sugar and starch. A fine of £1 and costs was imposed.—Walter Dean, general dealer, of Millbrook-road, pleaded guilty to selling adulterated milk. The



analyst's certificate showed that 10 per cent. of water had been added to the milk. A fine of 20s. and costs was imposed.

At Seaham Harbour, on November 16th, William Heward Allen, of Sunderland, carrying on business at Seaham Harbour as the "Danish Dairy Produce Company," was charged with an offence under the Margarine Act. Mr. Iliff appeared to prosecute, and the defence was in the hands of Mr. William Anderson, of Sunderland. Mr. Benjamin Scott Elder, chief inspector under the Food and Drugs Act, deposed to sending a young woman, named Wilson, to defendant's shop to purchase a pound of "shilling butter." Mr. Elder put in the county analyst's certificate, which showed that the "butter" sold contained 80 per cent. of added matter which was not butter. Miss Wilson proved the purchase, and said she asked for butter. George Wilson, assistant-inspector, gave corroborative evidence. The defendant denied selling the article purchased by Miss Wilson as butter. He had no "shilling butter" in the shop. Owing to a band playing in the street, defendant admitted that he indistinctly heard the young woman say "shilling," and he gave her margarine from a block which was labelled such. Mr. Anderson contended that his client had fulfilled all the requirements of the Act, and he therefore asked for the dismissal of the case. The Bench, however, decided that the charge had been proved, and fined defendant £2 and costs, in all £3 10s.

At Durham, on November 21st, Elizabeth Cowell was charged with an offence under this Act, at Waterhouses, on the 26th ult. Mr. Benjamin Scott Elder, inspector under this Act, stated that he purchased ½ lb. of lard from defendant's shop, which, upon being analysed by the county analyst, was found to contain 12 per cent. of beef fat. A representative of the firm of Messrs. Carrick, Smith, and Co. stated that the lard was got by them from a firm at Belfast, who guaranteed it to be perfectly free from adulteration, and of course it was sold to Mrs. Cowell in all good faith. Mr. Scott Elder pointed out that the defendant had her remedy from the firm. Fined 5s. and costs.—Charles French was charged with an offence under the Act, at Bearpark, on the 25th ult. Mr. Scott Elder stated that he purchased some ginger, which was afterwards found to be adulterated with 30 per cent. of exhausted or spent ginger. Fined 10s. and costs.

Isabella Usher, was charged at South Shields with selling rum adulterated with 10·5 per cent. of water. Mr. Michael Pollock, inspector of food and drugs, proved the case. The Bench fined her 10s. and costs.

Elizabeth Groome, licensed victualler, of the White Lion Inn, Lowdham, was summoned for having sold gin adulterated with 17 parts of added water on October 15th. Colonel Story, the inspector, said that the sample which he purchased was 46 per cent. under proof. Defendant said that she had never had any charge of this sort made against her. The Chairman remarked the public must be protected. The full penalty was £20, but a fine of £5 would be imposed.—Edmund Battersby, licensed victualler, of the Punch Bowl Inn, Woodborough, was summoned for having sold gin adulterated with 75 parts of added water on October 15th. Colonel Story proved the case, and Mrs. Battersby said she and her husband had not been used to the business. The gin was part of old stock, and they had not allowed for the evaporation of the spirit. They had only been in the house five weeks, and had purchased the spirit from a previous occupier. A fine of £2 2s. was imposed.

Robert Madrell was charged at St. Helens with selling as butter a substance not of the nature and quality as that demanded by the purchaser. Inspector Steel deposed that he purchased a pound of "1s. butter" which, on being analysed by the borough analyst, was found to contain 85 per cent. of fat other than butter. A fine of 20s., including costs, was imposed.

Francis Doyle was charged at Dublin at the instance of John Hickey, Corporation sanitary inspector, with selling milk adulterated with 10 per cent. of added water. The magistrate cautioned the defendant.—Thomas M'Entyre, of 11, Lower Summer-

hill, was summoned for the sale, on the 19th of October, of a pennyworth of new milk adulterated with 28 per cent. of added water. He was fined £1.—Richard M'Gann, of 9, Campbell's-row, was summoned for the sale of a pennyworth of new milk adulterated with 16 per cent. of water. He was fined 10s.—Esther Alpin, Clonliffe Avenue, was summoned for the sale of a pennyworth of new milk from which, according to the certificate of Sir Charles Cameron, cream was extracted equal to 19 per cent. of added water. She was fined 10s.—Mary Smith, of 182, Great Britain-street, was summoned for selling a halfpennyworth of butter-milk with 16 per cent. of added water. She was fined £1.

At Coventry, on November 24th, Thomas Ludgate, Woolpack Inn, St. John-street, was summoned by Mr. W. H. Clarke, sanitary inspector, for selling whiskey 19 per cent. below the standard allowed—25 degrees under proof. The Bench fined defendant 40s., and also ordered him to pay the analyst's fee.

At Tenterden Petty Sessions on November 19th, Elijah Groves was summoned under the Sale of Food and Drugs Act for supplying gin which was not of the substance and quality demanded by the purchaser. P.-c. Skinner stated that on October 26th last he went to the Black Horse in plain clothes, and asked for a pint of gin. He was in a room adjoining the bar, and was served by defendant's daughter, who was in the bar, through an opening in the wall. The superintendent then came in, and divided it into three parts, and explained to defendant that it was purchased for analysis. In reply to Mr. Bracher, the constable and superintendent both denied having seen a printed notice hanging up in the bar to the effect that diluted spirit was sold there. Defendant admitted that the spirit was diluted, but he was not aware of it being diluted with more than 35 per cent. of water, which he was allowed to do. Edward Ballard proved that the notice produced had been in the bar since December last. The Bench found that no sufficient notice of adulteration was given to the purchaser, and fined defendant £5, and costs 11s. 6d.

Edmund Blunden, Hoddesdon, was summoned for selling margarine which was not labelled as such. Thomas Johnson, inspector under the Food and Drugs Act, proved the case. Defendant was fined £1, and 9s. 6d. costs.

Ebenezer Brown, Hockerill, was summoned at Bishop's Stortford for selling coffee adulterated with 25 per cent. of chicory. Mr. T. Johnson, county inspector under the Food and Drugs Act, proved the case, and the defendant was fined 2s. 6d. only, as there was no fraudulent intent.

Arthur Beddoes was summoned at Birkenhead, on four informations, for neglecting to label margarine as such when exposed for sale, and for failing to wrap margarine in a properly printed wrapper. Inspector Dawson proved buying the margarine, which was labelled "Pure Butter." The Bench imposed fines of 40s. and costs, and 20s. and costs on the first case; and on the second information, where the defendant had sold margarine in spite of the inspector's warning, fines of £10 and costs and £5 and costs were imposed. The total penalties and costs amounted to over £20.

John Dunn was fined £5 and costs at Liverpool for having exposed for sale margarine which was not labelled. Sergeant Leedale proved the case.

The International Tea Company were summoned for selling as coffee an article which Mr. Adams, the county analyst, certified was adulterated with 46 per cent. of chicory. The penalty inflicted was £10 and 28s. 6d. costs.

Mary Pease, grocer, of Scissett, was fined 10s. and costs at Barnsley on November 23rd for selling coffee adulterated with 15 per cent. of chicory. Mr. J. H. Bundy, inspector under the Food and Drugs Act, proved the case.

Thomas Firth, Denby Dale, was fined 5s. and costs for selling rum 26·4 degrees under proof. Mr. Bundy proved the case.

Arthur Barlow was summoned at Tipperary, on November 22nd, by Sergeant Clarke, R.I.C., inspector under the Food and Drugs Act, for having, on the 13th of October last, exposed for sale at Tipperary Market a quantity of butter which contained 19·36 per cent. of water. A fine was imposed of 10s. 6d. and costs.

# CHAMPION'S MUSTARD

MANUFACTURED AND MILLED FROM

## MUSTARD SEED ONLY.

**CHAMPION & CO.,** so far as they are aware, are the only makers of importance who  
**DO NOT MAKE AN ADULTERATED MUSTARD.**

**CHAMPION & Co.** confine their attention to selling only Genuine Mustard Flour, milled and manufactured from Mustard Seed. They frequently sell 20,000 tins of such Mustard in a day in London alone.

To make **CHAMPION'S Mustard**, it is essential to use only the finest Mustard Seeds, inasmuch as chillies or ginger cannot be employed to produce pungency, nor can turmeric be utilised to secure high colour; consequently ripe and perfectly-coloured Mustard Seed only can be used.



Joseph Pickering was fined 2s. 6d. and 32s. 6d. costs, at New Whittington, for selling milk which was deficient of 20 per cent. of its natural fat.—Colonel Shortt brought the case forward.

James Haynes was fined £1 and costs at Ripley for selling brandy which was adulterated with 13 parts of added water, being 35 degrees below proof.

### MILK AND WATER AT WEDNESBURY.

AT the Wednesbury Police-court, on November 27th, before Mr. Neville, stipendary, Alfred Dare, 5, King-street, milk dealer, in the employ of the Midland Dairy Company, was summoned by Mr. H. Van Tromp (inspector under the Food and Drugs Act) for having sold as pure milk a mixture which contained 16 per cent. of water. The inspector's agent bought the mixture in the street of a boy named Thomas Wheeler, who stated that he was selling for Dare. The purchase having been proved, and the analyst's certificate put in, Mr. P. S. Dewes (Birmingham), who appeared for the defence, called Dare, who said a warranty arrived with the milk, and it was sold just as it was received, but he had not the warranty. Wheeler and other boys bought milk wholesale from him, and retailed it for their own benefit, he having no control over them. He sold 94 gallons weekly in this way. He admitted in cross-examination that Wheeler was his wife's brother. Joseph Lowe and Wheeler were called to confirm Dare's statement. The Stipendary said that if such a scheme as this was in existence—selling to boys of the age of those called, and allowing them to retail the milk—the only way to stop it would be to impose as heavy a fine as possible upon those found selling adulterated milk, knowing that they would not be able to pay the fines, and would have to go to gaol. If such a scheme were to become general it would be the greatest fraud possible upon the consumers, especially those inhabiting small house properties. In this case he had not the slightest doubt that the boy said he was working for Dare, and not, as was represented for the defence, that he bought the milk from Dare. A fine of £5 and costs was imposed.—John Botwood, Bridge-street, Wednesbury, another servant of the company, and David Hickman, one of the company, were summoned under like circumstances. Early on the morning of the 26th ult., Mr. Grasson saw Botwood going from the direction of his own house to the company's depôt in the Holyhead-road, and followed him, reaching him just as he was filling up his can from a churn outside the depôt. He bought half a pint of milk which was taken from the can, and another half-pint from the company's manager, a man named Fereday, who was inside the depôt. The former purchase, on analysis, was found to contain 33 per cent. of added water, but the latter was pure. For the defence, Mr. Dewes said the Dairy Company sold 10,000 gallons of milk weekly, being supplied by between forty and fifty farmers, and only once in twelve years' business had they been summoned before. They took every possible means to prevent adulteration. He afterwards put in a warranty which had been received with one of the churns of milk from which the supply was drawn, and called witnesses to show that the milk was vended as received. The Stipendary pointed out that they were not selling it in the state in which it was received, inasmuch as Botwood had been supplied partly from the churn with which the warranty was received, and partly from some surplus milk which had been left over from the previous night. Mr. Dewes submitted that still they were selling the milk in the same state or condition as they received it; and the Stipendary replied that it was not worth while to argue it, as the case would not turn upon that point. He came to the conclusion, after further evidence, that Botwood, after receiving two gallons of pure milk, went across to his own house and left a quart with his wife, and then water was put in, either by himself or his wife, and he went back to the depôt and filled up his can with more milk. He imposed a fine of £5 and costs upon Botwood, or two months' imprisonment, and ordered the company to pay the costs in the other case, remarking that whilst they were liable in strict law to heavy penalties, it would be unfair to impose such penalties upon them for the deliberate fraud of one of their workmen. Mr. Dewes said the man would be at once dismissed.

### "DANGERS TO HEALTH."

DR. BERRY, lecturing at Wigan last week, said: Those people who had come thinking he was going to give them a panacea for all diseases would be disappointed. His intention was to point out to them the many sanitary defects in houses at the present day. Although rapid strides had been made in sanitary science they still found that there was much to alter, and it was necessary that they should educate the people, so that they could have some knowledge of what was right and wrong on those matters. There was no doubt that technical instruction would be very beneficial in that direction. They would all admit that health to the democracy was wealth. The riches of the rich man were of little avail without health—without the power to enjoy them and disburse them in the right direction. The subject of health had not been forgotten by the poet who wrote:—

Nor love, nor honour, wealth, or power  
Can give the heart a cheerful hour  
When health is lost; be truly wise  
With health all taste of pleasure lies.

A number of views were then thrown on the screen. The first shown was of a house with every sanitary arrangement faulty. In

this case the water closet was in the centre of the house, the drain was under the floor of the room, the waste pipe of the lavatory was untrapped and passed directly into the soil pipe of the water closet, the overflow pipe of the bath was untrapped and passed into the soil pipe, the waste pipe of the bath was the same, the kitchen sink pipe was untrapped and passed directly into the soil pipe of the water closet; the cistern overflowed into the soil pipe of the water closet, ventilating into the roof and polluting the water of the cistern which formed the water supply of the house, and the rain-water tank underneath the floor had its overflow into the drain. The second picture shown was of a house with all the faulty arrangements avoided, namely, water closet against the outer wall of the house, the soil pipe passing directly outside, ventilated by a pipe, being a continuation of the soil pipe away from the chimney and windows. The house drains were entirely outside, the lavatory and overflow pipe of the bath were properly trapped, the kitchen sink was trapped and disconnected, the overflow pipe of the cistern was into the open air, the fall pipe of the lot discharged over a gully, and the domestic cistern was entirely separate. The remaining pictures showed the deficiencies that had been found in different houses—insanitary arrangements in kitchen sinks, lavatories, and baths—also disused traps that had not been removed, and which allowed sewer gas to enter the dwellings. In one case the cistern fed the kitchen boiler, the overflow was untrapped, and carried directly into the drain, establishing a channel for sewer air to come and foul the water in the boiler. Another illustration was to show that a fall and ventilating pipe should not open near a window.

Faulty ventilation of drains was next spoken of, and a good illustration was that of "rats, and the tale they tell," which was that of broken or faulty pipes owing to subsidences and other causes, which allowed the rodents to get from the drains into the house. One illustration showed the soil pipe of the w.c. passing down the wall of the sitting-room. Several examples were shown of a larder in which sewer gas was unable to escape owing to the drain not being trapped, thus showing why meat would not keep, why beer turned sour, and why milk disagreed. Another illustration was to show the difficulty of not knowing the exact location of the cesspool, and the importance of plans of all drains in connection with dwelling-houses being kept by the owner and the sanitary authority. He advocated that the sanitary authority should be compelled to keep a copy of the plans so that in case of bad drains they would be easy to get at.

The danger of having rain-water cisterns underground and in close proximity to soil pipes and cesspools was pointed out, and several illustrations were shown to indicate how water got contaminated and how people drank the sewage. Another illustration was one showing how the cesspool had overflowed and saturated the surrounding foundations, causing typhoid and sore throat in the house. A new building erected over an old drain was shown, and one comical illustration was that of a butler who was requested to obtain more wine. He went into the cellar, stepped on the covering of the cesspool, it gave way, and he disappeared. Bad jointings of sewage pipes, openings through the subsidences of the foundations were shown, and one illustration showed how people might be poisoned by defects in the neighbour's drain. A good illustration was given of the "jerry" builder, where "seconds" were used, all being defective, and thus making faulty joints. "Jeremiah buys the seconds because he cannot get thirds," said an honest Yorkshireman on seeing this picture. The physical impossibility of trying to make curves with straight pipes was illustrated, as was the constructing of a drain for the impossible task of water going uphill. The other illustration showed a six-inch pipe between two four-inch pipes, the evils of building on filled-up stuff—the terrace of the future on the refuse of the past drains being blocked by roots of willow trees, a London house under which four cesspools were found, a vicarage being rendered insanitary by the soakings from the churchyard, and the last showed how a house could be ventilated without dirt. The lecture was most attentively listened to, and at the close Dr. Berry was heartily applauded.

### CORRESPONDENCE.

#### SKIPTON AND KEIGHLEY MAGISTRATES.

To the Editor of FOOD AND SANITATION.

November 24th, 1894.

DEAR SIR,—In your issue of FOOD AND SANITATION dated November 24th there is wrongly attributed to the Skipton magistrates the peculiar and unreasonable view of their duties, as regards the adulteration of food and drugs, which was taken by the Keighley magistrates, as mentioned in the article "Dangerous Deception in Drugs." The Skipton magistrates, as you will see by reference to past issues of FOOD AND SANITATION, have always shown a true regard for the welfare of the public, by inflicting severe penalties where adulteration has been shown to exist (see issue for September 29th, pages 306 and 310.) Will you therefore remove the impression in your next issue that the singular view of an inspector's duty emanated from the Skipton Bench. It was uttered by the Chairman of the Keighley Bench. —Yours faithfully,

SUBSCRIBER.



## THE SELECT COMMITTEE ON ADULTERATION.

## CONTINUATION OF MR. JAMES LONG'S EVIDENCE.

XXII.

(Continued from page 376.)

WHAT is the Danish law on this subject?—The Danish law provides for an oval tub.—And a label?—Yes, I have a label with me. These are the Danish labels of margarine cheese and margarine, with a guarantee of the percentage (*producing the same and handing them in*). The Danish law provides for a form of account to be kept, and those are the forms.—This large margarine label indicates 6 per cent.; I suppose that is the margarine limit?—As being the limit.—Mr. Kearley: That is the percentage not of margarine but of butter fat?—I beg your pardon, of butter in margarine.—Incorporated by the process of washing it with milk and cream?—Yes.—In the process of making margarine pure and simple?—Yes.—With no fraudulent admixture?—No.—Sir Walter Foster: Then about the Swedish law, have you anything to say about that?—The Swedish law is much less severe, or much less perfect, than the Danish law; but the principal thing that results by the Swedish law is the prohibition of the importation of margarine, and the use of special boxes.—Special in shape or colour?—Special in shape only.—Then as to the German law, what is that?—According to the German law margarine must be sold in the form of a cube, and labelled; and there is a clause providing for the imprisonment of persons who have been repeatedly fined. Shops must be labelled to this effect: "Sale of margarine"; mixtures are prohibited entirely; and I may add that since the Act was passed the prices of the mixtures of margarine have fallen considerably.—Then with regard to the Belgian law, what have you to say?—In accordance with the Belgian law of 1890, every manufacturer of margarine or person preparing mixtures is open to inspection; inspectors are liable to enter all places of preparation of margarine at all hours, and margarine must not be made of any substance which is not produced from whole milk; that is to say, that margarine must not have incorporated in it any substance which is not produced from whole milk.—Then what is the French law?—The French law, I should simply say, is now under consideration in a Bill which was presented to the Chamber. Perhaps I had better put this in, it is rather lengthy.—Mr. Channing: Is that the Bill now before the Assembly?—Yes; it is the proposed Bill.—Mr. Kearley: Has not that Bill been under consideration much in the same state as it is in now for two or three years?—This is altogether a new Bill.—There has been an attempt to legislate on the subject in France for the last two or three years, which has been abortive?—Yes.—Sir Walter Foster: This is the last attempt?—Yes (*handling in the same*).—Have you any information as to the law in the United States?—With regard to the United States, perhaps you will allow me to quote from a report of my own in the journal of the British Dairy Farmers' Association. "In 1883 the quantity of margarine sold in the States" (that is the State of New York) "amounted to 15,000,000 lbs. per annum; to-day, margarine is neither manufactured nor sold. In 1885," (this in passing) "the milk shipped to New York and Brooklyn consisted of 4,835,831 40-quart cans. The 1893 report says, that in the past year the sale had increased to 7,040,342 cans, in addition to 61,000,000 cans of condensed milk, and 182,000 cans of cream. On one occasion 16,370 cans were inspected, and only 88 were found to be doubtful in quantity. The Assistant Commissioner, Van Valkenburg, a delightfully original man and a deadly foe to the margarine maker, with whom I had an interview, says that between 1884 and 1893 the city milk consumption has increased over 90 per cent., while the population has increased only 25 per cent. He believes this to be entirely owing to the fact that the public are supplied with pure milk. In 1892 the dairy goods handled in New York State reached 29 million dollars in value (nearly £6,000,000), of which 5½ million was the product of New York State." The manufacture and sale of margarine are entirely prohibited in the State of New York.—Mr. Channing: The manufacture also?—Yes; this Assistant Commissioner is the man who has had the work during the past seven or eight years, of what he termed killing the trade.—Sir Walter Foster: And he has effectually done it?—He thinks he has.—Mr. Kearley: Is there no export of margarine from the State of New York?—I do not think there is any.—Sir Walter Foster: Have you anything to say about your personal experience in New York?—Not with regard to margarine; I may say that in Massachusetts, to take only one more State, the law prohibits the sale of any imitation of yellow butter, and the sale in hotels, restaurants, and eating-houses without notice. A recent report by the Commissioner refers to the fact that although butter boxes are obliged to be labelled or branded, yet the sellers are so ingenious that they pile in their shop windows and warehouses these boxes together to hide the brands, and therefore the Legislature of the State has devised a plan by which they are compelled to brand on every side, top, bottom, and sides as well in very large letters.—Mr. Yerburgh: Are you aware what the regulations are upon the matter of colouring in the State of new Hampshire?—That the margarine is to be coloured pink.—And in the State of New Jersey?—I could not remember on the spur of the moment.—Are you aware whether in the State of Connecticut there are any regulations with regard to the restriction of the sale of oleo-margarine in

restaurants?—In Connecticut; and it is prohibited to sell any margarine in restaurants unless the article is branded or declared to be such. That applies in five states.—In Russia are you aware of any regulations with regard to colouring margarine?—I am not. In Minnesota, Iowa, and Wisconsin colouring is prohibited.—Sir Walter Foster: Have you anything more to say upon that point about the law?—I think not.—Sir Mark Stewart: Do you know whether there is much adulteration in the United States?—Yes, a great deal.—In spite of those prohibitions?—I do not mean that in States where the law is strict, it is very much checked indeed; in fact, the trade is almost killed, but in the other States, where the law is chiefly permissive, adulteration is carried on to a large extent.—Mr. Channing: If there are exports of margarine from the port of New York, they need not necessarily be coming from the State of New York?—No.—Sir Walter Foster: And with regard to the excess of water in butter, what have you to say upon that point?—I was a witness in the recent trial at Manchester in January last, when the Corporation took some test cases, and I should like to refer to a statement made by the stipendiary magistrate, who said that, in his opinion, after hearing a great number of witnesses on both sides, the question should be determined by the Government.—That is to say, as to the quantity of water?—Yes.—That there should be a standard fixed by Government?—Yes. Upon that point, having given evidence myself, and having heard almost all the evidence that was given, I should like to make the suggestion that the water standard should be 15 per cent. That is exceeded, is it not, in many samples, especially of Irish butter?—Very considerably indeed. It is a very difficult question to approach, because the Irish farmers, I am willing to admit, are behindhand, both as regards their possession of proper utensils and of proper water. I do not think it is a matter of skill, because they have capital schools in Ireland, and many means of learning how to make butter; but they have certainly not in all cases the utensils necessary; and as we were shown in evidence, and as I have seen myself, in Ireland they often have not pure spring water, and without water below a fairly normal temperature you cannot expect to make butter which is sufficiently firm to enable the workers to get out the moisture.—Mr. Kearley: That applies to dairy butter?—Yes.—Not to creamery-made butter?—No.—Sir Walter Foster: Then you think that the excess of water in Irish butter is due to the methods of manufacture in those separate farms?—I think so in some cases; I only apply it to a moderate number of cases. But I take it that if a person makes an article of food, he should be prepared and equipped with everything requisite to enable him to do his work properly, and that the public should not be compelled to receive this food as pure and good, simply because the man is imperfectly equipped.—This excess of water in Irish butter goes up occasionally beyond 15 per cent., does it not?—Yes.—To what percentage does it go up?—It goes up as high as 40 per cent. One of the witnesses in the court at Manchester said that he had himself had butter, or had seen butter, containing 40 per cent. That was an outside case, of course, but from 25 per cent. upwards to 28 and 29 per cent. is very common, and 21 and 22 per cent. they look upon as being quite normal.—Does this excess of water occur in other samples of butter, such as Hamburg butter?—In Hamburg butter, unquestionably. In Hamburg there is no excess, because the people who send the butter to England from Hamburg are manufacturers or bleachers on a large scale, who have every means of doing their work in a perfect manner, and that butter is sent to us properly adulterated, really adulterated.—Can you give us the opinion of Dr. Bell and others on this subject?—Dr. Bell, in his well-known work, says that more than 12 per cent. is unnecessary, and that over 16 per cent. is injurious to the keeping properties of butter; and yet I believe that Dr. Bell and his staff have been very commonly responsible for permitting this fraud to be continued by the mild manner in which they treat the analyses made by analysts in the country. If you take Duclaux as an example of French opinion, he takes 14 per cent., with a difference of 1 per cent. either way.—And Fleischman?—Fleischman takes, for unwashed butter, 12 per cent., or for washed butter, 12½ per cent.—Have you some analyses of butter of different countries with reference to this point?—Yes, I have them, both in brief and *in extenso*, of a large number of samples of English butter, taken from a very eminent man, Dr. Veith, who was for many years chemist to the Aylesbury Dairy Company. He shows that average English butter contains from 7·26 to 15·79 per cent. of water, averaging 11·12 per cent.; that 93 samples of French butter averaged 13·93 per cent., and a number of samples of French salt butter (the others being fresh butter) contained 12·5 per cent.; that of Danish butters the average was 13·24, and Australian 11·55.—Then water can be removed below the limit of 15 per cent. by careful preparation?—Yes; for the evidence at Manchester I made an experiment. The butter was churned in two lots with an equal quantity of cream; the work was done the same in every case, excepting that in one case the brine used in washing and salting the butter was warmed; this being done because it is known that some manufacturers treat their butter with warm brine for the express purpose of enabling it to retain both salt and moisture. I think I have the exact figures. At all events, one sample contained between 8 and 9 per cent. of water, and the other one between 12 and 13 per cent.—The one being treated with warm brine?—Yes, but even with warm brine (this is my point) the water was considerably less than 15 per cent.—If they use warm brine to increase the percentage of water, how do they manage that absorption of water beyond the point to which you succeeded in



obtaining it?—Simply, either by carelessness or by design. If to a very soft butter brine is added, you cannot work the butter on the machine, or by hand, or in any other way in order to remove the water; therefore the water is incorporated and sent out to the dealer.—And the salt is not used to increase the percentage of water, is it?—In that case it is, because the salt assists in retaining the water itself. But in ordinary butter, it is contrary to what is generally supposed. I do not believe that salting does at all assist in retaining the natural moisture. This water is injurious in two ways; first of all, it is a fraud upon the purchaser, who buys water instead of butter?—Yes.—And, secondly, it is injurious to the butter, inasmuch as it assists decomposition?—That is so in many cases. Pure spring water, free from bacteria or organic matter, is undoubtedly wholesome, and useful in making butter; but if water which is derived from shallow wells, or from cisterns, or from exposed running streams, for example, contains organic matter or bacteria (which it unquestionably does), then it is perfectly certain that butter deteriorates from the adoption of its use.—Then water of an impure kind might in that way be the means of conveying disease?—It might be.—I think there is also another reason, is there not, why they use this water and this salt; it is to cover the flavour of poor butter, or badly-made butter?—That was stated in evidence in Manchester, although it was flatly contradicted, I believe, on the other side; but that is my experience. If you make butter of inferior quality, and unquestionably all Irish butter is of inferior quality, made, as it is, in cabins in county Kerry, where they have no proper convenience, that butter will not keep; it is only a matter of a few days to be off flavour. Then, in order to prevent the detection of this off flavour, this incipient rancidity, heavy salting is adopted, and the consumer does not detect it so fully.—Butter, then, may appear on the surface dry, may it not, and yet contain a considerable quantity of water?—Yes.—How do you account for that?—I am afraid that I have forgotten to bring some photographs to illustrate my meaning; but this is the result of Danish experiments. The chemical adviser to the Danish Government on this question, Professor Storch, two years ago made some exhaustive experiments in order to ascertain the percentage of water in butter by the microscope. I happened to be over just about the time, and he showed me the photograph, which he subsequently sent me. He found upon an average of a number of samples, the presence of water was not actually owing to anything beyond carelessness in the manufacture. For example, an apparently dry butter was found on analysis to contain more moisture than it should do, and by the microscope it was found that this water was distributed very generally throughout it in minute globules, whereas another butter which appeared to be much wetter when examined by the eye, did contain less water although the water was present in large globules, instead of being in small ones. This was owing to careless manipulations.—That is to say, that in the one case the water was minutely divided and distributed through the mass, and in the other case it was aggregated into large globules?—A few large globules.—The latter being the result of careless manufacture, and the other the result of what?—The result of excellent manufacture.—Was the percentage of water unequal in these cases?—No, in the apparently dry butter it was higher, although not too high. I do not suggest that.—It was higher?—Yes.—But not beyond your standard of 15 per cent?—No. In cutting the butter with a knife, a judge generally looks to see if there is water present, and he sometimes finds a drop exude, and he concludes that there is water in abundance, but it may be that this water may be present in large globules instead of very minute ones.—So that a surface appearance of water does not enable you to say how much water there is in a butter?—Certainly not.—I think that concludes all that you have to say upon this subject as regards water in butter?—Yes.—Now about milk; do you think that milk should be placed under the same control of a central department of the Government as butter?—I think it should be concluded under the same heading; that there should be a Dairy Bureau or department somewhat of the character of the American Commission, and that milk should be included under its head. And would you allow consumers to send up samples of milk for analysis, as of butter, to that department?—Yes.—You think that Section 25 of the Sale of Food and Drugs Act enables milk dealers to escape by the nature of its provisions?—Yes.—Will you refer to that, if you please?—“If the defendant in any prosecution under this Act prove to the satisfaction of the justices or court that he had purchased the article in question as the same in nature, substance, and quality as that demanded of him by the prosecutor, and with a written warranty to that effect, that he had no reason to believe at the time when he sold it that the article was otherwise, and that he sold it in the same state as when he purchased it, he shall be discharged from the prosecution, but shall be liable to pay the costs incurred by the prosecutor, unless he shall have given due notice to him that he will rely on the above defence.”—Labels of that kind, you think, cover the milk dealers?—In many cases in my experience it has been insisted that the farmer or producer shall attach to the churn of milk which he sends by rail a label which is worded and treated as a warranty, and that when a prosecution occurs this label has been taken into court, and has exonerated the person who has been charged.—Would you alter that?—I think I would.—In what way?—I do not think that it guarantees milk of a high quality, because, in the nature of things, a person who is absolved by somebody else is careless, and not so careful as he otherwise

would be, in distributing to the public an article of very high quality.—Would you proceed against the farmer through the retailer, as in the case of butter?—That is a point that I have not noted just here. I should like to add to my remark, also that the milk, if it is in cans at the time it is seized, may be referred to as regards this label; yet if it is removed from the can, the label cannot be referred to at all as being in any form a guarantee.—But those cans can be sampled during their transit?—Yes.—So that the farmer is liable to inspection during the transit of his milk?—Until the milk is delivered. I think you cannot very well exonerate a farmer so long as the milk is in his churn, and has not been touched by the person to whom he has consigned it.—Once delivered and removed the churn, you cannot hold the farmer responsible?—I think not.—The fines inflicted in these cases are generally too small, are they not?—I think so; they should be at least £5 for the first case. I would be very liberal in drafting a law with regard to the adulteration of milk, but after having once convicted a man, I think he should be fined £5.—And afterwards, if he were repeatedly convicted, you would imprison him?—I would increase the fine to £10 on the second occasion, and £15 for the third, and then I would give him a taste of the law in another form. By imprisonment, you mean?—Yes.—Would you give farmers and dealers power to indict their own servants if they were guilty of fraudulent practices in connection with milk?—With regard to that point I should like to quote the proposed law drafted by the Dairy Trade and Can Protection Society. I know nothing about that society excepting that I have had this sent to me, but it is very full of common-sense. “Any person who shall add water or other adulterant to, or abstract the fat from milk, the property of his employer, shall be liable to a penalty not exceeding £20, or to imprisonment without the option of a fine in addition to the value of the milk so damaged.” And there is a further clause, “Where an employer is charged with an offence against this Act, he shall be entitled, upon information duly laid by him, to have any other person whom he charges as the actual offender brought before the court at the time appointed for hearing the charge, and if, after the commission of the offence has been proved, the employer proves to the satisfaction of the court that he had used due diligence to enforce the execution of this Act, and that the said other person had committed the offence in question without his knowledge, consent, or connivance, the said other person shall be summarily convicted of such offence, and the employer shall be exempt from any penalty.”—Do you think that farmers are liable to this kind of action very frequently on the part of their servants?—I do not think that farmers are very often liable to it, although I have known a case; but I think that people in the trade are. It is pretty well known to those in the trade that there is a great deal of fraud going on on the part of servants both of the wholesale and the retail dealers and distributors, and that they require protection accordingly.—Then you would have all the evaporated milk, or separated milk, labelled?—Yes.—I think that it should be labelled in very large letters, in two-inch letters on every can.—Separated milk, that is to say, might be sold as separated milk, but only as separated milk?—Yes, I have no objection to that; although, if my will could be law, I would not sell separated milk at all.—Why?—Because I think it is very damaging to the trade of the country, and deleterious to the health of children, who are the very large consumers of it.—That is to say, that it is not so nutritious for children as pure milk?—It is not so nutritious.—But in itself it is not injurious?—By no means; it is an excellent food for stock on the farm; but I think that both condensed skim milk and separated milk are the means of a very great deal of fraud on the part of those who sell them, and do a great deal of damage to people who consume them.—But do not you think that there is less damage done by separated milk and pure milk being mixed together than by water being added to pure milk?—That is another point; I quite agree to that.—As regards colouring matter, you would prevent that being added to milk?—It is well known in the trade, particularly in London and large cities, that poor milk, that is to say, milk naturally poor, and bought at a low price, or good milk mixed with separated milk, is enriched in appearance by the addition of anatto. This is extremely common, and I think it should be penal to do it. It can easily be detected by an analyst, and I think it ought to be included in any future Bill.—But at the same time, if that makes the milk pleasanter to the eye, and it is not injurious to the consumer, there is some advantage in a product of that kind being sold at a cheap price to the poor, is it not?—An advantage in colouring?—I mean, if it is pleasanter to the eye, it is probably pleasanter to the palate, to some extent?—I think it is pandering to the ignorance of the very lowest classes; and I believe that milk so highly coloured as it is sold very often is injurious.—Mr. Bolitho: Do not you think that a very large proportion of all milk sold in London is so coloured?—I believe it is.—Mr. Jeffreys: You believe that is coloured?—Yes.—Coloured by the retailers, then, not by the farmers?—Yes, by the retailers.—Sir Walter Foster: That is produced by the public taste, probably; there is a desire, is there not, for a rich-looking milk, on the part of the public?—I do not think so, at all.—Why is it done, then?—It was done originally under a misapprehension, no doubt, by people with no conscience, and who supposed that they would be gratifying the consumers by giving them milk of the colour of the Jersey milk, which he never sees.—Mr. Channing: Does it not convey to the customer the idea that he is getting such milk in all



cases?—It conveys to him the impression that he is getting a pure milk, but not an exceptionally rich milk.—Sir Walter Foster: You think it conveys to him an idea that he is getting a better article than he would if it were not coloured?—Yes.—Your proposal with reference to milk is, that there should be a standard fixed?—Yes.—And that that standard should be fixed so that all milks falling below it would be regarded as adulterated?—I would not commit myself to use the word “adulterated” at this moment; but I would simply propose that there should be a standard.—Sir Mark Stewart: You could not make a standard for colour?—No, for fat.—This is a standard of composition?—Yes.—You propose that your standard should be what?—3·2 per cent. of solid fat, and 12 per cent. of total solids.—Mr. Channing: That is 8·8 per cent. of solids not fat?—No; my proposal is 3·2 of fat and 12 per cent. of total solids.—That would leave 8·8 for the rest?—No; it is quite a different thing if you look at it in another way. I would have no standard of solids not fat at all.—That is often referred to, is it not?—It is, but I do not think that it should be; and my reason is that there is a difference of opinion upon the point. There are some who wish to make a standard of 9 per cent., and although I am one of those who would like to make anything as high as possible consistently with what is fair to the public, I do not think it is possible, as a produce myself, to fix 9 per cent. I am sure that you could not do it.—Sir Walter Foster: Nine per cent. for what?—For solids not fat. I have abundant evidence on that, but it is evidence that you will have before you, I daresay, pressed as strongly as it can be pressed.—Will you give us your evidence on that point?—This I took from one of the large milk companies in which the standard of fat is referred to. This gentleman, a director of this company, bases his figures upon a very large number of analyses, and he says in his contract, “or if it should be certified by the company’s analyst for the time being that the milk supplied under this contract contains less than 3·25 of fat solids, or more than 9·20 of the other (non-fatty) solids, or less thereof than 8·75 during the months of June to March inclusive.” Then he is at liberty to deal with this matter. Therefore this company require their milk to contain 3½ per cent. of fatty solids and 8·75 per cent. of solids not fat. And further, and this is the point that I would like to impress upon the Committee, they require that the milk shall not contain more than 9·20 of non-fatty solids. I do not recommend that; it is impossible; but the point is this, that by the admixture of a certain proportion of separated milk with new milk you reduce the fatty solids and you increase the non-fatty solids.—That is to say that you increase the non-fatty solids out of proportion to the normal quantity of fatty solids?—That is just the point; and, therefore, by maintaining a high standard of non-fatty solids you are really giving a premium to the system of mixing the two milks.—Mr. Channing: Do you approve of a minimum standard of non-fatty solids?—I should not object to 8·75, as suggested here, but I would prefer to have none at all; I think it would be fair all round.—Sir Walter Foster: You have got some other figures there which I should like the Committee to have, because this is an important point?—That is a very important Scotch company; I will not give the names, but the whole of the papers are open to the Committee to see, but it will be understood that I do not give the names. This company in their contract require 3 per cent. of fat, but they also require 9 per cent. of solid not fat; and in writing to me the manager says, “during the last 10 years we have always stipulated for 3 per cent. of fat and we have had no trouble whatever in getting it.” Then another very large and very well-known firm gave me their percentage of fat, although they do not give it in sufficiently exact figures for me to quote it, for very obvious and politic reasons upon their part; but they do obtain a large quantity of their milk at as high as 4·25 per cent. of fat.—Sir Mark Stewart: Is that a Scotch company?—That is an English company. The next is a large English firm. I think I might mention the name in this case; I am not forbidden to do so; it is Tisdall, of Holland Park. I have here an analysis of the milk of the firm for a whole year in order to be able to quote the quality in every month, because it is well known that the quality varies in the summer as compared with the winter; in spring and the early summer months milk is very often poor, comparatively, in fat, whereas in autumn and early winter it is much richer. In this case there is only one single instance in which the fatty solids were below 3 per cent., and in this case the non-fatty solids were very high, and I have made a mark questioning its being of a genuine character. The same firm require their farmers to deliver all their milk with 3 per cent. of fatty solids; and I should also add, which is very important indeed, that the whole of these analyses (and there are a good many of them) are of the morning’s milk, and I am told by the firm that the milk of the evening is generally as much as 1 per cent. higher; so that the average of

this firm and others that I have quoted would be considerably higher than 3 per cent.—You give us all those analyses of different firms in support of your standard of 3 per cent. for fats, and a total of 12 per cent. for all solids?—Yes. This firm require their farmers to deliver milk of 3 per cent. and 12 per cent.—You think that in all cases of the details analysis should be given to all people whose milk is sampled?—I think it should.—For instance, if a churn is sampled in transit, the details of the analysis should be given to the farmer?—I think it should.—And if milk is sampled and analysed during delivery to the customer by the retailer the same course should be pursued?—Yes.—What is the New York system; what is their dairy commission; have you anything to say about that?—In New York State the law does not permit the sale of adulterated milk, which is described as follows: “(1) Milk containing more than 80 per centum of water or fluids; (2) Milk containing less than 12 per centum of milk solids; (3) Milk containing less than 3 per centum of fats; (4) Milk drawn from cows within 15 days before and 5 days after parturition; (5) Milk drawn from animals fed on distillery waste, or any substance in a state of fermentation or putrefaction, or on any unhealthy foods; (6) Milk drawn from cows kept in a crowded or unhealthy condition; (7) Milk from which any part of the cream has been removed; (8) Milk which has been diluted with water or any other fluid, or to which has been added, or into which has been introduced, any foreign substance whatever.”—Do you agree with that as a definition of pure milk?—I accept that very fully indeed. I would not, of course, press the whole of these points upon the Committee.—Sir Mark Stewart: Is that New York State or New York?—That is New York State. There are in New York two authorities, the New York State Commission and the New York Sanitary authorities. I went there, and was shown the whole of their system at work. The New York Sanitary authorities have a standard of 12½ per cent. of total solids.—Sir Walter Foster: Then the two bodies do not agree?—They did not; but they now work together very amicably. The Sanitary Department has divided the city into a number of districts; there are 6,580 persons registered as milk sellers, and each district is taken by an inspector, who reports from time to time upon the samples that he takes; and by this system they have been enabled to crush the sale of adulterated milk.—In your experience would there be any hardship inflicted on the sellers of milk that might be pure, and which came from a poor cow, or a cow under circumstances which rendered its milk poor, and the milk not reaching that standard?—I think not, for this reason, not as regards a single cow, but dealing with milk in general, that the milk that we buy for consumption is not taken from a single cow, but from a number of cows.—But it is conceivable, is it not, that you might have in some districts a man with two or three cows only, and their milk not reaching this standard?—I do not think it is. I think it is conceivable that one cow in three might give such poor milk, but I cannot think it conceivable that three cows could possibly do so. I examined the books in New York State, and I added up the number of columns with the Commissioners at random, and the average of those columns was 4·2 per cent. of fat. Now we are certainly not unable to produce what the Americans can produce, and I think that what they find succeed should be found to succeed in this country just as well.—Might you not have as this case, for instance; you might have a cottager selling milk from a single cow; or there might be a number of people with three acres and one cow, and, if they sold milk to their neighbours, that milk, from time to time, would be below this standard, very possibly?—Yes. I would provide for that by tracing the milk back, in such cases, to the cow herself. It is quite possible—I do not know that I have any right to say—so but it is possible, nevertheless, for a cow with tuberculosis (I know it is with another disease) to give milk of abnormally poor quality, and I think that while a standard would assist in many other ways, it might in one way in particular, namely, by discovering those diseased cows.—Still I am pointing out to you the difficulty with regard to a standard which has been raised more than once, and you think that it would be met by tracing the milk, in these individual cases, to the cow?—I think it would.—Would you make that a valid plea against conviction?—Only in specific cases. I do not think it would be fair to allow any retailer of milk who is buying milk, or who is retailing milk from a number of cows, to make a plea of that kind; but I see no objection in the world to allowing any person selling milk from one or even two cows to make that plea.—Sir Mark Stewart: It would make a farmer very careful not to have these diseased cows in his herd, would it not, if he had to have a certain standard for all the milk sold by him?—Yes, it would. The farmer would be exempt, I am quite sure, from any probable conviction.

(To be concluded.)

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## Food and Sanitation.

SATURDAY, DECEMBER 8TH, 1894.

### TYPHOID AND CREAMERIES.

THE results of Dr. Welply's investigations into typhoid outbreaks go far to prove that under existing conditions the extension of the creamery movement is not an unmixed blessing. The *Health Record* in its current issue says:—

One outbreak after another of typhoid fever seems to be following in the wake of the new creameries. These institutions have been hailed by many, and justly so, as one of the best schemes for the improvement of Irish farming which has been introduced of recent years. The conditions of Irish agricultural tenure—we do not mean in a political sense—are such that it has long been felt that nothing could be of such advantage to the Irish farmer, or better enable him to meet successfully the competition of other parts of the world, than the adoption in some form or another of the principle of co-operation. It was inevitable that if the producers of cream and butter in Ireland were to keep abreast of the times, and obtain the best price in the market, it could only be by discontinuing home manufacture by unskilled or at any rate rule-of-thumb and hap-hazard workers, with the most imperfect appliances, in favour of the skill, machinery, and capital, only to be obtained in a large establishment. In the case of milk, however, which affords such an admirable culture medium for bacteria, it is obvious that the combination of a number of separate samples in bulk constitutes a special danger, because with the marvellously rapid growth of these organisms, a single sample of infected milk, however small, infects the whole mass, and should the separated milk be, as is generally the case, distributed, it may spread disease through a whole neighbourhood. We fear it must be admitted that the comparatively low standard of education, and perhaps also the natural happy carelessness of the Irish peasant, largely contribute to the chances of infection of the milk supply to a creamery. To shut up the creameries and go back to the old clumsy system of butter-making would be a decidedly retrograde step, not to be thought of till all other means have failed. What we have to look to is rather the most careful supervision, and a rigid inspection of every farm, and especially of their water supplies, and also the adoption of the compulsory notification of disease. It is gratifying to learn, from the reports that reach us, that the medical officers of health, and especially the Local Government Board inspectors, are alive to the necessities of the case, and it is to be hoped that the various Boards of Guardians will strengthen the hands of their officers, as well as co-operate with the central authority in dealing with so important a question. Nothing would be so ruinous to the Irish butter trade, and through it to Irish agriculture generally, as that it should once get widely suspected throughout England that the Irish creameries were spreading disease and death all around them.

The dangers to which our contemporary directs attention are by no means confined to Ireland; for with all our advances in sanitation, there are districts in England from which milk is drawn for town supplies where impure

water, filth, and all that makes for disease, are regarded as matters of course. It is surprising that such conditions should continue when science has placed a cheap medium at the disposal of the farmer for securing water entirely free from germs. There is no farm in which it would not be possible to fit up either a Berkefeld pump filter, or one suitable for a creamery; and however impure the water may be before filtration the creamery proprietor might rest assured that no disease germs could be communicated to his butter or milk if only water for washing, etc., were used that had been through a Berkefeld filter. But along with the extension of the creamery system in Ireland and England teaching in sanitation is required. The creamery system will do a great deal for Ireland if it is carried out on enlightened sanitary lines. If not it is doomed to failure.

### CONDENSED MILK UNFIT FOR FOOD.

WALTER REEVE, of 15, Old Church-road, Mile-end, was summoned at Thames Police-court, on November 29th, at the instance of the Poplar Board of Works, for selling tins of condensed milk which were unfit for the food of man. Mr. Muir, in opening the case, said the goods were given by Reeve to a man named James Pretty. The latter either bought them at 6s. a dozen, or had them on commission to sell at that sum. The facts were that Reeve bought the milk at 3s. a case, which was absolutely a ridiculous price, because the cheapest milk sold was 10s. a case wholesale. Therefore it was perfectly obvious that defendant must have known there was something wrong with it. It was almost common knowledge that when tins were blown putrefaction was going on inside. With regard to the guilty knowledge, there was the question of price and the question of tins. Dr. Alexander, the medical officer of health, would prove that adult persons swallowing this milk would suffer from irritation of the stomach, while children would suffer from diarrhoea, which often resulted in convulsions and death. It was quite clear, therefore, that the milk was unfit for the food of man, and defendant had rendered himself liable to a penalty of £60, or in default six months' imprisonment.—Pretty was called, and said he gave defendant 1s. a dozen for the tins of milk. The brands were "Forget-me-not" and "Princess," but there was no name of any manufacturer. For the defence Mr. Bedford said the defendant bought the tins from Messrs. Cleave Brothers, and thought they were all right. He made a ¼d. profit on each tin.—Defendant gave evidence, and in reply to Mr. Muir said when his house was examined he had 140 tins of pine-apple, twelve tins of Swiss, and two cases of milk, all blown at both ends. These were condemned by the magistrate. The only things not blown were twelve tins of tomatoes.—At the request of Mr. Bedford, Mr. Dickinson adjourned the case.—Several other summonses arising out of the same matter were also adjourned.

### BACILLI IN STREET CARS.

EXPERIMENTS recently made by Dr. Ezra Wilson, bacteriologist of the Brooklyn Health Department, demonstrate the presence of bacilli in the dust and sweepings of the street cars in that city. He has reported a fatal case of tuberculosis in a guinea-pig which had been inoculated with bacilli cultivated from dried sputum found in the cars. Health Commissioner Emory has decided, as a means of disinfecting the stations and cars



of that city, that they shall be thoroughly cleansed every three days with a solution of bichloride of mercury. A sub-committee on the prevention of tuberculosis, of the Medical Society of the county of Kings, recently recommended that a city ordinance be passed making it a misdemeanour to expectorate in any public conveyance, but the suggestion was not carried out.

### THE TRADE IN ROTTEN TINNED FOOD.

AT Thames Police-court, on December 1st, Dr. Alexander, medical officer for Poplar, asked Mr. Dickinson to condemn 392 tins of lobster, which were unfit for the food of man. On Friday evening, Mr. H. E. Miners, sanitary inspector to the Board of Works for the Poplar District, seized the above number of tins of lobster while they were being exposed for sale on a stall at Christ-street, Poplar. They were being sold at 1½d. per tin, and a notice to the effect was being displayed at the time the seizure was made, together with the words: "All bad ones exchanged."—The tins were brought to the yard adjoining the court, where they were examined by Mr. Dickinson.—His Worship ordered them all to be condemned.

### DEODORISING RANCID FATS.

A PATENT has been taken out for a process of treating fats, oils, and similar bodies which have a peculiar odour or have become rancid. The material is placed in a vessel which can be made tight, and the air which may be left in after placing the quantity of fat in the vessel is displaced by an inert gas, like carbonic acid; it is then heated to a suitable temperature, and steam passed through till the vapour which is condensed is odourless. In treating oleo-margarine and similar animal fats, the steam is replaced by an inert gas such as carbon dioxide, that serves to carry away the odoriferous substances, and yet have no action on the fat as steam might have. In some cases the fats may be treated with a solution of bisulphite of soda, which will exert a bleaching action. The steaming is liable to increase the acidity and more or less oxidise the fats and oils, a feature, of course, more pronounced in some oils than others.—*Paint, Oil, and Drug Review.*

### QUACK NOSTRUMS.

It seems a very surprising thing that with so many Members of Parliament on the look-out for subjects that have not been exploited in the House of Commons, none of our legislators have as yet turned their attention to the question of quack nostrums. And yet, were any Member of Parliament to introduce a Bill regulating the sale of quack nostrums, and safeguarding the public against imposture, he could be certain, not only of doing useful public service, but of causing himself to become one of the best advertised men in England. He would have some newspapers attacking him, for the reason that so much of their revenue is derived from advertisements of quack nostrums, whilst the more respectable would cordially support him; but as Members of Parliament, without possibly an exception, have taken well to heart the lesson learnt from the experience of Barnum, who said, "I don't care whether you abuse me or whether you praise me, but, for God's sake, notice me," the Member of Parliament identifying himself with the suppression of this gross imposture might safely reckon that with very little effort he would secure enormous advertisement. It is, therefore, somewhat astonishing that none of our Parliamentary gabblers have

had the *nous* to seize the opportunity. They manage nostrums much better in France, where it is now proposed to alter the law requiring that the active principle and the dose on the label is to be all that is necessary with regard to foreign proprietary medicines. This alteration is sought for in the interests of the gang who worked Warner's Safe Cure, Sequah, etc., and of the proprietors of similar nostrums, whose schemes have hitherto been impossible of realisation in France, owing to the fact that under the present French laws no medicinal preparation of a secret nature is allowed to be imported or sold; all articles are submitted to analysis by the High School of Pharmacy, and the results communicated to the Minister of Commerce. Quack medicines, therefore, have but a slight chance in France. The proprietors of several quack nostrums believe they see an opportunity to promote companies of the Sequah and Warner kind among the thrifty French people, hence this attempt to secure alteration of the law, and it is hoped by the gang anxious to run the swindles that by utilising the notorious venality of the French press a loophole may be secured for the admission of quack trash into France. The time is ripe for legislation in England, which has long been needed to protect the public from the brazen and lying swindles practised by the quack nostrum vendors; and some ambitious Member of Parliament on the look-out for a subject would be well advised in taking up the question of the suppression of the sale of swindles to the public under the guise of cures for everything.

### THE HEALTH SIDE OF MILK ADULTERATION.

DR. NEWSHOLME, medical officer of health for Brighton, says:—"I know that cheapness and adulteration commonly go side by side. There are 'black sheep' in every trade and profession; and I am speaking to those who know the 'black sheep' of the milk trade in Brighton as well as I do myself. These parasites of the life of our town rob our pockets and undermine the health of the children. They rob our pockets. For milk we get separated and oftentimes watered milk. Cream is the most valuable part of milk. It has been very commonly removed before the milk is offered for sale in the poorer streets of our town. Such separated milk can be sold with a profit at 1d. a quart; the poor are commonly paying for it 3d., or even 4d., a quart. They rob our children of what is essential for their growth and welfare. This is particularly the case in the poorer districts.

"The rich can protect themselves; the poor buy in small quantities, and irregularly, and are at the mercy of the itinerant sharper. In some parts of Brighton one out of every five children dies before reaching the end of the first year of life. In other parts only one out of every ten or fifteen dies at the same age. Why this difference? I cannot in a few sentences sum up completely the reasons for it, but I have no hesitation in saying that a milk supply deficient in quantity and deteriorated in quality is the chief cause at work. It is sad to think of this slaughter of the innocents going on in our midst, partly owing to the ignorance of parents substituting starchy foods for milk, but still more owing to the fact that when they pay for milk they do not get it. Fat is one of the most essential elements of food, especially in early life. Separated milk has been deprived of it; and the prevalence of rickets, consumption, and other diseases is largely due to food which is deficient in fat. A distinguished physician once said that the amount of consumption was regulated by the price of butter. I might say with even greater truth that if you will tell me the amount of separated milk sold in a given district instead of whole milk, it would be easy to state that that district would have an excess of consumption, rickets, and other diseases."



## SOMERSET HOUSE AND THE BUTTER QUESTION.

It is claimed by the public analysts of the country that Somerset House stands between the public and the fraudulent trader; and it is pretty clearly shown, in the evidence of the expert called on behalf of the Somerset House Laboratory, that there is no love lost between the respective bodies, belonging, as they do, to the same profession. It has recently been shown by the New York State Commissioner that margarine is frequently mixed with considerable quantities of paraffin, which he claims to be deleterious to health. It has become the fashion in England, on the part of many who profess to be the protectors of "the people," to speak of margarine as an irreproachable food, the producers of which themselves need the protection of the State; but when margarine itself is imitated, as it imitates butter, and is fraudulently imitated, it will be quite time for its supporters to ask Parliament for the same assistance which agriculturalists and consumers at large are demanding in the case of butter. There appear to be two great difficulties in the way of the chemist, which cannot, at the present time, be overcome. The first is that there are no means of detecting the presence of margarine in butter when the proportion does not exceed from 16 to 20 per cent. The reason is, roughly speaking, as follows:—Each fat is composed of soluble and insoluble fatty acids. In butter the proportion of soluble fatty acids, although small, is variable; in margarine they exist in much smaller proportion, indeed, 1 per cent. would probably be the outside, and that proportion is constant. Assuming, for the purpose of the argument that the range of these soluble fatty acids in butter varies between 4 to 7½ per cent., it is evident, these being leading points of difference between the two materials upon which the chemist relies, that if a mixture of margarine and butter shows a percentage of fatty acids within this range, it cannot be condemned. Now, assuming that the butter used contains a maximum of from 7 to 7½ per cent., it follows that margarine can be added to a considerable extent without the soluble fatty acids showing less than 4 per cent. This, then, is the initial difficulty. The second difficulty is that stale butter, examined in a rancid condition, approximates very closely in its composition to margarine itself. In other words, the insoluble fatty acids which it originally contained in its fresh form are increased, while the soluble fatty acids have decreased, thus bringing a butter which was originally low in soluble fatty acids below the range shown in pure butter. We can, therefore, understand that in a prosecution in which there is considerable delay, samples taken in one month and subsequently sent to Somerset House in another month provoke a difficulty which the chemist is unable to overcome, and, this being the case, the fraudulent trader escapes.—JAMES LONG in *The Farmer's Gazette*.

### WHO IS TO BLAME—THE FARMER OR THE DEALER?

WILLIAM NORMAN, milk dealer, 16, Graham-street, Leicester, was summoned for selling adulterated milk on the 15th inst. Mr. T. Bent proved taking samples of milk, and handing one to Dr. Priestley, who certified that it was adulterated with 7 per cent. of added water. Mr. Harding admitted the analysis to be correct, because defendant had had his sample analysed with a similar result. His defence was that Norman received a warranty from the farmer with the milk, and that therefore he was exonerated from blame. Defendant and his wife stated that the milk was not adulterated after it reached their premises. Mr. Bell contended that defendant ought to have taken steps to find out whether the milk was what the farmer professed it to be. The magistrates dismissed the case, the Chairman remarking that there was no doubt a fraud had been perpetrated, but they believed that Norman was the victim.

## FOOD ADULTERATION IN EUROPE.

A GERMAN report recently published contains some interesting statistics of food adulteration in Europe and in America. Of 37,233 food samples examined in Great Britain, 4,793 were condemned; and of 398 tested in Holland in six months, not less than 148 were unsatisfactory. All dried fruits examined at Rotterdam were objectionable, either as decayed or containing zinc; at the same place, 20 samples of butter yielded five that were objectionable; and in Berne, of 13 samples as many as 8 were falsified or bad. The spices sold in Belgium this year have often proved to be impure. Samples of black pepper contained 30 per cent. of starch, saffron was contaminated with 50 per cent. of heavy spar and honey, and mustard was mixed with meal, turmeric, or sand. At Berne, 6 out of 8 samples of cloves were condemned, 12 out of 15 ground peppers, and 13 out of 19 saffrons. Here also were found artificial coffee beans manufactured from acorns. The chief adulteration reported by Wiley from the United States is honey, of which 45 per cent. was impure in 500 samples; but artificial coffee beans—both whole and ground—were found, extracted leaves redried were obtained from many samples of tea, and copper in small amount was detected in all canned peas imported from France.

### BAD EGGS.

#### A QUESTION OF ENFORCING CONTRACT OF PURCHASE.

In the Queen's Bench Division, on December 1st, the case of *Peters and Co. v. Planner* came up for hearing for the fourth time. Both parties to the action are provision dealers, and the plaintiffs' case was that on March 5th last they sold and on the following day delivered to the defendant 130 cases of foreign eggs at £2 a case; and they now sued to recover the price. The case for the defendant was that on March 5th he bought 20 of the cases as a sample, and that these 20 cases contained good eggs. On the following day the remaining 110 cases were bought upon a warranty that the eggs were equal to sample, yet they turned out to be quite unfit for food; therefore the defendant refused to accept them. The defendant paid money into Court, and also set up a counterclaim. The plaintiffs, in reply, pleaded that none of the goods were bought by sample of the 20 cases, and so far from their having been a warranty of quality, the eggs were expressly sold "subject to all faults," the defendant having inspected some of the eggs, and having had opportunity to inspect the rest.—Mr. Grain was for the plaintiffs, and Mr. Crump, Q.C., and Mr. Lewis Thomas for the defendant.—Mr. Crump submitted, as a matter of law, that the action could not be maintained, because the Public Health Act of London, 1891, forbade the sale of provisions that were unfit for food. Further, that it was evident that the defendant intended to buy Galician eggs, whilst those sent in came from Poland. Independent of the Statute, there were decided cases to the effect that a contract for the sale of provisions that were unfit for food could not be enforced. Mr. Grain contended that, though it was an offence to sell unsound food, there was nothing in the Statute that would render void a contract for such a sale. He further argued that there was no sale by sample; it was a simple sale in bulk, and subject to all faults. A purchase "subject to all faults" would exempt the sellers from all liability if the eggs turned out to be bad, and even if they were Polish instead of Galician eggs.—Mr. Justice Hawkins: Suppose a man bought 1,000 pigs "subject to all faults," and they sent him 1,000 guinea pigs?—Mr. Grain: "Subject to all faults" would not apply in that case, because there was sent animals of a very different kind from that which the buyer intended to buy.—Mr. Justice Hawkins, on the conclusion of the argument, took time to consider his decision.—Judgment deferred.

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## PROSECUTION CASES.

THOMAS WILLIAMS, grocer, Twynynrodin, was fined 10s. and costs at Merthyr, on November 28th, for selling lard containing 10 per cent. of beef fat.

Mary Elizabeth Gentry was summoned at Marylebone Police-court, on November 21st, for selling whiskey which was below 25 per cent. under proof. Mr. Daniel James Andrews, sanitary inspector to the Vestry, spoke to purchasing at the defendant's house a pint of whiskey, which, upon being analysed by the public analyst, was found to be 30 per cent. under proof. A fine of 40s. was imposed.

Samuel Alexander was summoned at Liverpool for an offence against the Food and Drugs Act. A sample of butter procured at defendant's shop contained 14 per cent. of fats other than butter, a layer of margarine having been sandwiched between two layers of butter, so as to escape the notice of persons examining the upper or lower portions. Inspector Webster having given evidence in support of the case, the Bench imposed a fine of £5 and costs.—A fine of £10 and costs was imposed upon Alfred Tweed, 53, St. John's Market, for selling as butter an article containing 50 per cent. of other fats.—Charles M. R. Dixon, 207, Park-road, was fined £5 and costs for selling as butter an article containing 65 per cent. of foreign fats. The cases were proved by Inspector Baker.—Alfred Rowlands, 14, Prince Edwin-street, was fined £5 and costs for selling ginger adulterated to the extent of 20 per cent.

Joseph Lees, farmer, was summoned at Oldham for selling milk adulterated by 12 per cent. added water, and abstracting 20 per cent. of the fatty matters from the milk. Mr. Thomas, sanitary inspector, proved the case. A fine of £5 and costs in each of the two cases was imposed.

Henry Cox, a milk dealer, of Stratford, was summoned at West Ham by Dr. C. Sanders, medical officer of health for West Ham, for selling milk adulterated with 15 per cent. of added water. Mr. Kenny and Mr. Bagshaw, sanitary inspectors, proved the case, and defendant was fined £3 and costs.

Mary Robinson, Chiswick, was summoned at the West London Police-court on November 29th by the Excise for diluting her beer. It was stated that the beer was diluted to the extent of two and a half gallons of water to a barrel of 36 gallons. The defendant was fined £6, with £4 13s. costs.

Mary Brown, provision dealer, Birmingham, was summoned, on November 30th, for selling butter containing 75 per cent. of foreign fat. The offence was admitted, but it was urged that the article was sold just as it was received, and defendant had no knowledge that it was adulterated. A fine of 40s. and costs was imposed.—Edwin Green, Sherlock-street, provision dealer, was summoned for a similar offence. In this case the adulteration was also 75 per cent. of foreign fat. The Bench said that it was a bad case, and the penalty would be one of £5 and costs.—Samuel Hilton, Shakspeare-road, provision dealer, was summoned for selling coffee containing 80 per cent. of chicory, and butter containing 75 per cent. of foreign fat. He was fined £5 and costs in each case.

Frederick Beavis, Hoxton, and Messrs. Cooper Brothers, Hoxton, were summoned by the Vestry of St. Leonard, Shoreditch, on December 1st, for selling as olive oil, for salads, etc., an article which in the case of Beavis, had 80 per cent., and in the other instance, 77.3 per cent., of "added" oils, principally cotton-seed oil. Beavis was fined £16 and costs, Messrs. Cooper £15 and costs.—William Phillips, in respect of margarine sold as butter, was fined £20 and costs.

Henry Truman was summoned at Birmingham, on November 30th, for selling to Inspector Davis whiskey with 6 per cent. of added water, being 29½ under proof. A fine of 20s. and costs was imposed.

Thomas Bunting was summoned at Birmingham, on November 30th, for selling, on October 18th, a quantity of ginger containing 5 per cent. of extraneous mineral matter. Inspector Davis proved the purchase, and produced Dr. Hill's certificate. The Bench considered that the case was so trivial that they could not convict.—The summons was dismissed.

Mr. North, the Merthyr stipendiary, on December 3rd, pronounced his reserved decision in the case of Elizabeth Powell, of Dowlais, who was summoned for selling diluted milk. It came out in the hearing that the milk purchased by the police was milk which the defendant's servant was taking to Mrs. Powell's mother-in-law, who was a regular customer, and on the ground that the milk was the property of the mother-in-law at the time of the transaction, and that the servant did wrong in selling it, his worship now dismissed the summons.

At the Brentford Petty Sessions, on November 30th, Henry Wood, milk seller, Woodbine-terrace, Southall, was summoned by the local authority, the Southall-Norwood Local Board, for selling milk adulterated with 25 per cent. of added water.—Mr. A. Lawrence Houlder appeared on behalf of the authority; the defendant attended in person, but was not represented by advocate. Mr. Watkins, the assistant inspector, gave evidence to the effect that on November 4th he had taken a sample of the defendant's milk, which was served from a can on the cart. This sample he had handed over to Mr. Tidy. Mr. Charles Tidy, inspector to the Southall-Norwood Local Board, under the Food and Drugs Act, deposed that he had received the milk from the last witness. He had separated it into three parts, one of which was given to the defendant, one sent to the analyst, and the third portion he (witness) now produced. He also produced the certificate of the analyst, certifying that the milk contained 25 per cent. of added water. Four previous convictions were proved against the defendant, and the magistrate inflicted a fine of £7.—A summons had been issued by the same authority against James Wright, of Turnham Green, for selling skimmed milk containing 10 per cent. of added water. Defendant pleaded that he had sold the milk as he had received it; he was unaware that it was otherwise than pure skimmed milk. Similar evidence was given as to the purchase and separating of the sample, and Mr. Tidy produced the certificate of the analyst to the effect that the milk contained 10 per cent. of added water. Defendant was fined 10s. and cost.

At Belvoir Petty Sessions, on December 3rd, John Clower was charged with selling adulterated gin at Redmile, on November 13th. Inspector William Hollock proved sending an agent for a pint of gin, which the certificate of the analyst proved to be 42½ per cent. under proof, or 7½ degrees under the legal strength. Defendant pleaded not guilty, saying the gin was always bought at 17 per cent. u.p., but through his being ill more water had been added by someone in his employ. He had kept the house 34 years, and this was the first complaint. Fined 23s., including costs.

A grocer named Henry Ransome was summoned at Folkestone on November 27th for exposing unlabelled margarine for sale, and also selling the same without being enclosed in a wrapper bearing the word "margarine." Mr. Minter defended. Mr. John Pearson, inspector under the Food and Drugs Act, entered defendant's shop on November 12th, and asked the assistant if he had any margarine. The assistant drew from under the counter a basket supplied by Sir Richard Dickeson's firm and properly labelled "margarine" on the top, bottom, and sides. Pearson was told that he could not be served with any margarine as they were out of wrappers. A boy unsuccessfully tried to obtain a wrapper from some other tradesman, and as defendant would not serve the inspector with any of the margarine the latter went behind the counter and weighed half-a-pound from the basket, threw down fourpence for it, and left the shop.—For the defence Mr. Minter denounced the proceedings of the inspector, and charged him with fancying it was his duty to try and entrap respectable tradesmen into a technical offence. He characterised the inspector's conduct as disgraceful, and said the prosecution was a disgrace to the Corporation, who had been misled by the inspector.—The Bench decided that the margarine was not exposed for sale, and the first charge was dismissed. With regard to the sale, they reluctantly decided that by accepting the price of the margarine a sale had been effected, but it was under such circumstances as satisfied them in inflicting a nominal penalty of 1s., with no costs.

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## THE WATERCRESS SCARE.

IT may save unnecessary alarm to know that in the cultivation of watercress on all the principal farms in the country great care is exercised in order to prevent any surface water or sewage impurity from entering the beds. Natural springs of known purity and artesian wells are utilised, even the water from the adjacent stream or river being carefully excluded; and, for the growth of winter and spring cress, manure would not be beneficial but positively harmful. Dr. Verdon has seen the watercress plantations near London, where summer cress is grown, for which purpose some stimulant in the form of manure would be of service. But the watercress sold in our large cities and towns of the north of England is grown, not on sewage farms near London, but in cress beds supplied with pure spring water, situated in districts remote from any large town—amongst the Chiltern Hills of Buckinghamshire and Hertfordshire, the downs of Wiltshire and Berkshire, the chalk hills of Surrey, Hampshire, and Dorset.

## SPENT GINGER.

AT Sheffield, West Riding Court, on November 27th, Arthur Machin, grocer, Hillsboro', was summoned for having sold ginger which was not of the nature, substance, and quality demanded, some which was purchased from him on October 23rd was found to contain 30 per cent. of exhausted ginger.—The defendant said that he had had the ginger in stock some 15 months, and was not aware that it was not absolutely pure. He purchased it from Messrs. Nicholls, Gibraltar-street, who at the commencement of this year were convicted for selling ginger of an inferior quality.—The inspector who proved the case said if the defendant could produce a warranty from the firm from whom the drug was purchased he would not incur any liability.—The defendant called Mr. J. Goodall, of the firm of Messrs. Nicholls, who said when the conviction was obtained against the firm they advertised for all their customers to return the ginger and receive in return the drug of the proper quality.—The defendant remarked that he had overlooked that matter, and had not sent his stock back.—The case was therefore dismissed.

## THE SELECT COMMITTEE ON ADULTERATION.

## CONTINUATION OF MR. JAMES LONG'S EVIDENCE.

## XXIII.

(Continued from page 384.)

Is it not the case very often now that a cow with tuberculosis will give an enormous quantity of milk?—Yes.—Mr. Kearley: You said that you could conceive of one cow in three giving this poor result, but you do not mean to take that as the average, do you?—No.—Sir Walter Foster: But you would admit this, would you not, that a cow might be in a perfectly normal state of health, and yet give milk of a low quality below your standard?—I know it to be the fact that she might. I can give you a case at the Royal Agricultural College.—Could you give us the percentage; out of 100 cows how many would give milk below the standard that you specify?—I do not think it is possible; I do not think it has ever been done or attempted.—Mr. Bolitho: Must it not always very much depend upon the grass, and the season, and a hundred other things?—That is a debatable point whether feeding really affects the fatty properties in milk, or whether it does not.—Do you not think, with your experience, that if cows are moved from one field to another, very often in the course of two or three days there would be considerable shrinkage in the output of butter?—Yes; but it sometimes happens that that is owing to the shrinkage of milk.—Sir Walter Foster: Have you any of Professor Veith's figures with reference to the analysis of milk upon which you could give us figures relating to the number of poor cows, or cows giving poor milk?—No; not with regard to poor milk. My figures have all been prepared with reference to milk of high quality. I have some more here that I should like to put in.—Mr. Jeffreys: Would it not be a very rare exception for any cow to give milk below the standard that you have mentioned of 12 per cent. of total solids?—No; it is not by any means rare. It is much more rare to find herds of cows giving milk below that standard, but not an individual cow. I will give you one or two instances to that effect. I have here the case of a very large Manchester firm where for four years in 22 sets of analyses in different months the non-fatty solids were below 9 per cent., and the fatty solids were 20 in number over 9 per cent. In every case with no exception during four years, in every month of the year the fatty solids of the milk were over 3 per cent., and in very many cases over 4 per cent.; I have here an average I have got out from the records of our London Dairy Show for 1890, 1892, and 1893 for each breed. The non-fatty solids of the shorthorns was in each year below 9 per cent.: 8·78, 8·87, 8·91; the Jerseys were, in each case, over 9 per cent., the Guernseys the same; and the other breeds in two years were under 9 per cent., and in one year over 9 per cent. So that this evidence proves that it is impossible to insist upon 9 per cent., even with cattle of the very

highest quality, fed for exhibition. At the same time, in every case the fatty solids were very high. Those are very valuable figures.—Have you got the figures of the fatty solids in those cases?—Yes; they vary. As regards shorthorns, they were 4·05, 3·8, 3·96; the Jersey were all over 5 per cent., the Guernseys over 4 per cent.; and the other breeds were, in two years, over 4 per cent., and in the third year 3·96. I have also data with regard to milk supplied to the British Dairy Institute. I am chairman of the committee, and these were given me by a director who buys milk from farmers in Buckinghamshire, near the institute, and in every case the fat during the past two months has been over 3·4 per cent. This evidence, again, is the fullest that I have ever seen; it is with regard to work conducted by the New York State experiment station during three years. I was at the station last year, and I obtained all their reports, and I worked them out into this table which I have here. In one year they made experiments in cheese-making at the station itself, and at a factory near the station. In the other years they made similar experiments at three factories, in one case dealing with 750 cows, in another case with 650 cows, and in the third case with 14,000 cows. I have got the figures not only with regard to the three years, but to all the seven cheese-making months. The lowest fatty per cent. in any month was 3·2 in May, 1892; with regard to solids not fat, they were ten times; that is to say, in 10 months, over 9 per cent., and in 27 cases, under 9 per cent. Out of 36 months, therefore, there were nine months in which they were over 9 per cent. only. Then to compare with those, I took the experiments made in Somerset during the last two or three years in a Cheddar cheese manufactory, where I found that, as regards English milk, we had as low as 3·06 per cent. of fat, and never reaching 4 per cent. until the month of October; and with regard to solids not fat we had in Somerset, in every case, in April, May, June, July, and August, and in September of one year, under 9 per cent.; and in only three cases, September, 1891, and October and September, 1892, over 9 per cent. of solids not fat. These figures relate not merely to herds of cows, but to herds upon a very large scale.—Sir Mark Stewart: Have you any Scotch statistics upon the same subject?—Yes.—Sir Walter Foster: Have you got statistics for the Scotch Dairy Institute?—Yes, but the dates are not so full. The last analysis of the milk at our school, which was taken on the 9th of July, showed 3·6 of fat.—Sir Mark Stewart: Is that at Kilmarnock?—Yes, from 40 cows at the Home farm. This milk contains 8·7 of non-fatty solids. We also buy the milk of 28 cows for our school, a sample of which, analysed on three days, showed 3·5 per cent. of fat, and in each case the samples were taken from the morning's milk, so that these figures really represent milk of a higher quality than the figures show.—Sir Walter Foster: Have you any more evidence on that point that is worth putting in? I will only give you two more cases, one as regards Ayrshire cows. In the first half of the year 1892 the total solids averaged 11·45 per cent.; and in the second half 12·13; and by the Babcock test the milk analysed as regards fat in 1893 in no case showed less than 3·25 per cent., and in 1894 in no case less than 3·34 per cent. These are all from Ayrshire cows of mixed morning's and evening's milk.—All those figures that you have given us go to support your view that it would be proper and fair to have a standard of 3·2 per cent. for fats, and 12 per cent. for total solids?—Yes.—Can you tell us what is the practice in Paris?—In Paris the municipal authorities adopt 13 per cent. of total solids as the basis for prosecution, and 4 per cent. of fat. I sent over to one of the professors the figures that I suggest to-day, and he says that the figures adopted, not merely adopted for calculation, but adopted for prosecutions, are practically the same, 3·25, and 12·25 per cent.—Do they use the same methods of analysis in Paris that we do here?—Yes.—Mr. Kearley: The Babcock test or the coil?—They use the recognised chemical system; but as regards the Parisian figures, I am bound to say they have no law upon the point of a standard, and that, so far as you can gather, it is practically left to the chemists themselves.—Sir Walter Foster: And the standard there is in the same position as it is here?—Yes; but the professor uses the words very distinctly "practically the same"; not really the same.—Is there a standard in Germany?—I cannot answer that question.—Mr. Kearley: Whose standard is that in France, that of the public analyst, or the Government?—It is really a standard of chemists; there is no Government standard.—But the Government chemist or the municipal chemist?—The municipal chemist.—Mr. Herbert Gardner: How are the prosecutions conducted?—I do not know.—Sir Mark Stewart: Is that a more correct test than Babcock's?—Babcock's is a ready test for farmers; it is perfectly correct for fat.—Sir Walter Foster: Do you know anything about the Canadian or Copenhagen practice? I have a note here to that effect. In Copenhagen, if a sample contains less than 3 per cent. of fat, it is taken again from the whole herd in the presence of a police functionary. There are no binding regulations as regards a standard of fat in Copenhagen.—In regard to Canada, have you anything to say?—In Canada there is no standard; they adopted a method a year or two ago in order to ascertain what figure should be fixed in case they fixed a standard, and they obtained a very great number of samples, which analysed out to 12·48 per cent. as the average of total solids. Mr. Herbert Gardner: Have you got the average of fat there?—No.—Sir Walter Foster: Do you know what is the standard in Boston?—In Boston they adopt 13 per cent. of total solids.—And this is rather a remarkable fact, that in 1883 the percentage of



convictions taken with regard to the samples which were found to be adulterated was 60 per cent. In 1884 this had fallen to 40 per cent.; in 1885 to 30·6 per cent.; in 1886 to 18·55 per cent.; in 1887 to 12·54 per cent.; and in 1888 to 8·59 per cent.—Mr. Channing: May we have your opinion as to whether that is from an ineffective use of the law, or the effective use of it?—From the effective use of it.—You do not think that there are complaints of continued frauds which are neglected by the authorities?—No, I do not think so. When I was there they took in one week 87 cases into court, and the large bulk of them were convicted. That only happens occasionally; they take a large batch at one time.—Sir Mark Stewart: What sort of fines are inflicted?—From 20 to 50 dollars.—Mr. Kearley: Do you attribute this diminution to the establishment of a standard?—Yes.—I understand that the standard came into force in 1883 or 1884?—In 1883.—The high figures were before the standard was established?—Yes.—Sir Walter Foster: It is a high standard in Boston?—Yes.—And that has had a good effect, you think, in the matter?—That is what the officials claim, and they impressed it upon my mind.—Have you anything to say about the Belgian State Laboratory, and their methods?—I think not. They have simply a State Laboratory, and a system of inspection under the Government.—Have you anything more to add on this portion of your evidence?—I do not think I have at the moment.—You have nothing to say about a high and low standard; you would simply have the one standard?—I would simply have the one standard.—Mr. Kearley: In these districts where there is no law as to a standard, where the municipalities establish one, is there any Government department that is constituted a court of appeal, supposing the vendor questions the accuracy of the municipal analysis?—I cannot answer that question, I am afraid, as regards any country.—We have it, of course, as you know, at Somerset House?—Yes.—Sir Walter Foster: Then children's milk, bottled and preserved, you think, ought to be looked after very carefully?—It is pretty generally known that many of the small vendors of children's milk, who have no means of providing it, simply bottle a proportion of the ordinary milk that they receive from their farmers, and label it, and distribute it as specially bottled children's milk, and sometimes as from one cow. This might have been done many years ago when cows were kept in London, but it is impossible now. If your milk is not only mixed with water or separated milk or colouring matter, but with boracic acid and other preservatives, I think it is time that the law stepped in and checked this species of fraud.—With regard to condensed milk, have you anything to say?—I have. I will hand you a number of labels taken from the tins of condensed milk (*handing in the same*).—Is this milk skim milk in most cases?—In every case it is separated milk. Those labels are taken from tins which in many cases are below the weight; they are supposed to be a pound, 16 ounces; and in very many cases they contain very much less fat than they ought to do.—Mr. Whiteley: Are they all foreign samples?—No; they are Irish, Dutch, Italian, and German.—Mr. Herbert Gardner: Are there no English establishments?—I have not one single brand of an English establishment.—Sir Walter Foster: These tins, as a rule, contain a smaller proportion of fat than they ought to do, you say?—Yes, they do.—Though in some cases they contain a larger amount of total solids?—I have not got the total solids in any analysis. The total solids would include the sugar which they add to the milk, of course.—But if they are made of separated milk they contain a larger amount of solids not fat, do they not?—Yes.—And that would account for some of them containing a larger amount of solids?—Yes.—Is there any preservative put into them except sugar?—I do not think so.—Are there any English condensed milks?—Yes; the Anglo-Swiss Company at Aylesbury prepares some, I believe.—Those are, in your opinion, better milks than some of the foreign brands?—I have an analysis of those; they are English and Swiss brands as well, and they are of very good quality.—Mr. Whiteley: There is a large company near Middlewich, is there not?—That is one of the Anglo-Swiss Company's establishments.—Sir Walter Foster: You think that on these tins there ought to be the words "skim milk" very legibly and prominently placed?—I think that the label should be on the tins.—You say in black or blue letters from half an inch to three-eighths of an inch in size?—Yes, I measured the exact figures, but I have mislaid the paper.—But they ought to be larger, you think, than they are on the labels at present used?—Unquestionably.—So as to warn the public what they are buying?—Yes. I think also they should show their source of origin, the milk of every country being shown from whence it comes.—Mr. Herbert Gardner: What would be the object of that?—For example, you have a label like this (*handing in a label*) on which you have a Swiss chalet with the Alps in the background and the trees of the country, and this is labelled "Swiss Dairy Brand." It is made in Ireland. The condensed milk, as regards the Swiss, has a very good name in this country; people all look for Swiss condensed milk, and although the company which makes it is not a Swiss company, still the people buying it think that they are buying the best Swiss condensed milk, which is really of a high quality and which is largely made in England; and although they put upon their English labels, where it is made, still their brand is either the "Rose" brand, or the "Dairy Maid brand," or something of that kind. But if you put on this Swiss chalet, with the mountains behind, I maintain that the public who are in the habit of buying milk of this kind assume that it is of a high quality.—Mr. Kearley: What is the retail

price of Anglo-Swiss milk, do you know, or Nestle's?—I do not know, but it varies from 4½d. to 6d.—Would that be a high price?—Some are sold at a little less, but out of all proportion to their value. The condensed milk is only worth from ½d. to ¾ of a penny.—Mr. Channing: Is separate milk better than pure milk, and more easily treated than pure milk, for the production of condensed milk?—The system of treatment is almost identical. The only reason why separated milk is sold in this way is that it is a drug in the market, and that those people who have no outlet for making their butter take their skim milk and adopt the plan because it is more profitable.—The process for condensing would be the same in both cases?—Yes.—Mr. Herbert Gardner: Has this condensed skim milk any nutritive quality at all?—Unquestionably; but it is deprived of its fat, and being used for invalids and children largely, I contend that it is an improper thing to sell for what it is not.—Sir Walter Foster: And you think that these labels ought not to contain directions for use?—Not when they recommend the milk as being valuable for infants and invalids; I think that is worse than penal.—You think that in supplying a milk which does not contain the normal proportions of the nutritive qualities of good milk, the use of that milk is aggravated by their giving directions as if it did contain those qualities?—Certainly, because it misleads the poor people who are the chief buyers of it.—And consequently leads them to bring up their children on an inferior article, using it as if it were a superior article?—Yes.—Mr. Kearley: Would your objection to skim milk be met were these words "skim milk" put upon the labels so that they could be plainly seen, and if it were also stated that the milk was not fitted for the feeding of children?—That would meet my views, certainly, but I should not like to propose it.—I do not see why. I think it would be generally accepted by the manufacturers of condensed milk?—Looking at skim milk as a food, I take it that if you add any kind of fat, as the most intelligent people in the north do add chopped suet to skim milk in making puddings, then it is perfectly good, and I do not see but what it is almost as good as new milk; but if you deprive the milk of its fat, and then sell it to invalids and poor people, you are not assisting to improve their health, but to depreciate it.—And your objection is that skim milk does get sold to people who are not acquainted with its properties, and feed their children upon it, and, consequently, do not give those children the proper nutriment?—Yes.—That is the main objection?—Yes.—And that the labels do not clearly declare that it is not full cream milk?—No.—Mr. Whiteley: Most of those labels do announce that it is skim milk, do they not?—Yes.—Mr. Channing: Would you state what proportion of these labels do state that they contain skim milk?—Nearly all of them; but my objection is that it is put in such small characters that it cannot be seen without examination in many cases. I think that it ought to state upon the face of the label that it is made from skim milk.—Mr. Colman: It seems rather the rule that in the majority of these cases they do not give any company or manufacturer?—Yes.—The majority are without it?—Probably. I think the Irish people put on the name of the manufacturer, as a rule.—Sir Walter Foster: Have you anything to say about the French manufacture of these articles?—Just this, that a year ago two manufacturers came to me with an introduction from Paris, and asked me if I could introduce them to some one in England and advise them as to the sale of this separated condensed milk in this country; and as they were introduced by a great personal friend of mine, who has treated me with great kindness, I did what I could. I took them to several large wholesale houses in the City of London, and I was as much interested as they were. The result was that they went back to Paris in great disgust because they could not obtain any possible prospect of a sale unless they could offer it at 3s. a dozen tins; in fact, that was the price that was being paid by large London firms for some of the brands, shown to us, and they could not see their way to take less than that.—Mr. Jeffreys: What is it sold at retail?—It is retailed at 3½d. and 4d.—Mr. Kearley: Threepence a tin cost price?—Yes.—Mr. Jeffreys: And they retail it at what?—3½d. and 4d.; it is a very large profit, of course. These gentlemen expected to get something better than that, but they found that the market was full of nearly 40 brands of this milk, and therefore they gave it up as a bad job.—Sir Walter Foster: Have you anything more to say upon this subject?—I have the analyses and the weights of the tins of several of these brands; I will simply refer to the figures without the names. One brand contains 2·25 per cent. of fat. I should tell you that the best brands contain from 10·28 to 11·95 per cent. of fat; but the other brands contain 2·25, 1·96, 1·63, 1·54, 2·33, 2·72, 4·91, and 6·18 per cent.—So that they are all very much below the proper standard?—With one exception, every one contains much less than half the fat that it should do, so far as these cases are concerned.—Sir Mark Stewart: What quantity is there in each tin?—There should be 16 ounces; but they vary from 14½ ounces upwards.—Mr. Kearley: But are they sold as pounds of milk or tins?—As tins.—They are not sold as pounds?—No; that is the point; but the pound is the idea that the buyer has, in consequence of the milk being introduced originally by the pound.—Are the 14-ounce tins sold at the same price as the 16-ounce tins?—Yes. Recently, within the last few months, there has been a smaller tin introduced of a different shape; but that is sold, I think, for 1½d.—They are sold by the tin?—Yes.—But I think some of the Swiss firms guarantee the weight; they guarantee that a tin contains so much nett weight.—The best firms do,



MR. CHRISTOPHER MIDDLETON, Examined.

SIR WALTER FOSTER: I think you are a large practical agriculturist in Yorkshire?—Yes, and a dairy farmer in Yorkshire.—Do you farm many acres of land?—Between 300 and 400 acres.—And you have given, have you not, a great deal of attention to the question of margarine and milk, that is to say, margarine as an article of commerce, and milk as an article of food?—Principally to milk as a produce, and to some extent to margarine, because adulteration by it injures our position as dairy farmers. And your interest in margarine is simply the interest of a dairy farmer who wishes to legitimately protect his own production?—Principally to protect my own industry, and, to a certain extent, to protect the public.—In what way would you propose to interfere with the present sale of margarine for that purpose?—The first thing would be to prohibit any colouring matter being allowed to be added to margarine.—So that margarine would come into the market in a paler condition, its natural colour?—In its natural colour.—And consequently it could not possibly be mistaken for butter?—That is so.—You do not propose that there should be any foreign colouring matter of a different colour from that of butter added to margarine?—I am not in favour of that.—You would simply require that it should be introduced into the market in its natural condition?—That is so.—That you think would be an effective protection to butter producers?—I think in nearly every case that would make it absolutely impossible for margarine to be substituted for butter.—In addition to that you would have, would you not, travelling inspectors from the central authority?—Yes; to go down where the local authority are not doing their duty; that is to say that these travelling inspectors should go down and do the work that the local authority neglect to do; and also that there should be inspectors at every port where margarine or butter is admitted.—Then you would have these inspectors to look after the margarine and butter as imported, and also to go about the country taking specimens?—Yes.—And seeing that the Act was thoroughly enforced?—Yes.—What, in your opinion, would be the effect of this prohibition as to the colouring of margarine; would it tend to raise the price of food for the poorer class of people?—No; my opinion is that it would raise the price of butter, and that it would lower the price of margarine. Poor people, who prefer to use the margarine, at least who can only afford to use margarine, would get it then at its true value, and they would reap the benefit of that.—Do you think, then, food would be as agreeable and pleasant to them in the form in which you propose that it should be used as it is at present?—I do not think there is very much sentiment amongst that class of people who would buy margarine as margarine; I do not think that they would mind very much about what colour it was.—Then you would also extend your inspection and prohibitive measures to hotels and restaurants, I believe?—To restaurants, certainly, and as far as possible to hotels.—With a view of preventing their giving to their customers margarine instead of butter?—Decidedly. There is this difference between hotel and restaurants. At an hotel you do not perhaps specifically ask for butter, or if you do you are not specifically charged for butter. At a restaurant, I think, the Act as it stands, if properly enforced, would meet the case, because there you ask for butter, and in many restaurants there is a special charge made for butter if you have it; and there the present Act, if enforced, would meet that case.—Mr. Channing: It would be a distinct misrepresentation?—In that case it is decidedly a misrepresentation.—Sir Walter Foster: You would also have all wholesale margarine manufactories and the stores of wholesale dealers inspected?—Certainly.—And you think that this inspection of those stores would be a valuable protection to the public?—If it was thoroughly carried out.—Would it prevent adulteration?—To a very great extent.—By preventing the substitution and misrepresentation of the article sold?—Yes.—Mr. Whiteley: Are not those manufactories chiefly abroad?—A great many of them are, but there are a certain number in Great Britain. I cannot give you the exact number now, but there are getting on to 20.—Sir Walter Foster: You would, further, have all vendors of margarine registered?—Yes.—So that everyone would know where a margarine manufactory was, or a margarine manufacturer resided?—Yes; but the inspector should be able to put his hand on them at once.—Further, you would prevent margarine and butter being sold from the same counters?—Yes.—You would have a separate department, practically, in each shop, one side of which would be for margarine, and the other side for butter?—Yes; there would be less opportunity for the one being given for the other in mistake.—Mr. Frye: I suppose you would increase the size of the shop at the same time?—If necessary to do so.—Sir Walter Foster: You would also further have all specimens of margarine, or all specimens of margarine-butter, if I may use the term, invoiced as margarine?—If there was any admixture of margarine at all, I should certainly have them invoiced as margarine.—You say any admixture; what do you mean by that?—If there is any admixture of margarine in any sample of butter it should be sold as margarine.—Mr. Channing: That is the law under the Margarine Act, is it not?—I have not a copy of the Margarine Act by me; I cannot say off-hand.—Mr. Frye: But you know that mixtures of margarine and butter have to be sold as margarine and not as mixtures?—That may be the law, but it is not the practice.—Sir Walter Foster: Then in cases where the retail vendor proved that he had sold margarine or a mixture of margarine and

butter instead of butter unwittingly, you would allow that to be a valid defence?—Provided that the original vendor is proceeded against.—That is to say?—The wholesale man; the man he bought it from. Unfortunately, if that defence is set up, very often the proceedings lapse and go no further.—In the Associated Chambers of Agriculture they do allow 6 per cent. of margarine to be mixed with butter; would you go further than they do?—I suppose that is really because below that percentage it is almost impossible to detect any admixture. I think that that is the reason that the 6 per cent. is allowed.—Do you propose to go further than they do, or do you propose to take their standard?—I would go no further. If he could be detected I would not allow even 6 per cent.—Mr. Channing: Is not this recommendation of the Chamber of Agriculture based on the fact that 6 per cent. of butter is the minimum quantity which is necessary to manipulate into the margarine, to make it saleable at all?—Partly that; but I think it is partly because any lower percentage cannot be detected. Sir Walter Foster: Now about milk; you would have all premises where milk is produced for sale thoroughly inspected by the local authority?—Yes. To a certain extent that is done, but it is carried out in a most perfunctory manner.—That would add a good deal to the duties of the inspectors, would it not?—If they were to carry it out very thoroughly it would, because at present they make next to no inspection.—But you want a thorough inspection of every dairy shop and dairy premises made from time to time by the local authority?—Yes, and it is desirable in the interests of the trade that it should be done.—Will you explain how it is desirable in the interests of the trade?—In the first place, as a matter of public health it is desirable, because if that inspection was thorough there would be less likelihood of the milk being tampered with at the source where it is produced.—How would the inspection of the shop interfere with the milk being tampered with, either by the farmer or by some wholesale dealer who distributed it to the shops?—I think in the case of the farmer, if he thought that he was liable to an inspector dropping in at any moment it would tend to check it where it is done on the farm.—Mr. Frye: But milk could be watered in the street, could it not?—I suppose it is done occasionally in the street, perhaps not exactly in the street, but the man would go up a court—and I have seen it done—and bring it back with water in it.—Sir Walter Foster: In addition to this systematic and thorough inspection, you would have all milk carriers and sellers of milk licensed?—Yes.—Like the sellers of beer?—Yes. I think that as a rule the greatest adulteration is practised by those irresponsible milk carriers, men not representing large dairymen, but people who buy and sell a few gallons of milk in the day. Perhaps they have a small greengrocer's shop, or sell firewood, and they do not care for the profit that they make on the milk that they sell, because it brings people to their shop.—It is for the convenience of their customers?—They are the people principally, I think, who buy this milk which is mixed with skim milk. I think the readiest market for that is found amongst that class of dealer.—Smaller traders?—Yes, who are not dairymen.—Each of those persons you would compel to take out a licence to sell milk?—I would scarcely go so far as to say that they should take out a licence, but they should be registered.—And every person who carried milk about in the street would in the same way be registered?—Yes.—And probably have a badge?—He should be able to show that he is registered when called upon to do so.—And, of course, any misconduct on his part in the way of interfering with his wares, or his milk, would bring about a loss of his licence, or his registration certificate?—After repeated offences it certainly should do.—And in that way you think you would get a better class of men, a more trustworthy class of persons to distribute milk?—Yes, I think so.—There is a good deal of difficulty felt by many persons with reference to the standard of milk; have you anything to say on that point?—Yes; practically the whole question resolves itself into a standard.—You are in favour of fixing a standard?—I think it is desirable that there should be a fixed standard. Seeing that there is a standard adopted, I think you should have a fixed standard, so that every one should know exactly what that standard is.—Do you think that people could agree upon a standard?—I think that some agreement might be come to; it is rather difficult, but it is desirable that a standard should be fixed as high as it possibly can be, consistently with not being able to injure the honest producers of milk.—That is a very difficult point to fix, is it not?—It is; there is great difficulty in doing that.—That is to say, it would be very hard on a small producer of milk, keeping one or two cows, who might not be able to attain to that standard, whereas a large producer, selling the milk of many cows mixed together, is able to attain to the standard?—Not in all cases. One reason why a hardship may come in, whatever standard is fixed, is that, as a rule, the inspector always takes the sample of milk from the morning's milk. There is very great variation in most cases between the morning's milk and the afternoon's milk.—Where do you mean that the inspector does that?—In every town; in London, and elsewhere, he takes the morning's milk.—Mr. Herbert Gardner: Does it follow that because he goes in the morning to take the sample, it is the morning's milk?—In London the sample that is taken is really the previous evening's milk. That is one reason, I believe, why the milk supply of London comes out so well as it does, and many people form the opinion that the standard of milk is higher than it actually is.—Where do you get the information that the inspector always takes it in the morning; we have received information from the Local Government Board



quite the reverse?—I have a good deal of knowledge of dairymen in London. I am interested in the dairy industry in London, and I know, as a matter of fact, from the people whom I have to deal with, that the samples are nearly always taken in the morning; at least, so far as I know, the samples that have been taken from the company in which I am interested are in nearly every case taken in the morning.—Sir Walter Foster: But that milk, you admit, of which a specimen is taken in the morning in London is the milk of the previous evening?—I believe that is one reason why many people think that the standard may be fixed somewhat higher than it really should be.—Mr. Jeffreys: Because the evening's milk is richer than the morning's?—In nearly every case; in some cases very much richer. I have some figures further on which I shall submit to prove that contention.—Mr. Channing: Are you referring to milk brought by rail to London, or milk from cows in London or the neighbourhood of London?—I suppose the great proportion of milk that is sold in London is brought by rail.—So that the inspector has no very tangible evidence as to when the milk was actually got?—No; but you may take it as a matter of course that most of the morning's milk that is sold is the previous evening's milk.—Sir Walter Foster: You say that you have some evidence bearing upon this point; will you kindly give it us?—I have here analysis made from the milk of my own cows. I had every cow in my house tested morning and afternoon one day last year. In the case of very few cows did the fat come up to 3 per cent. in the morning.—Sir Mark Stewart: How many cows were there?—Forty cows in that house.—Sir Walter Foster: Those experiments have been made on 40 cows?—Yes.—Last March?—Yes; they were made on the 29th of last March. The average quality of the milk from those 40 cows in the morning was 2.86 of fat. In the afternoon milk the fat was 3.68, making the average of morning and afternoon's milk 3.27.—Mr. Channing: Over how long a time was this average taken?—It was just one day's milk.—Sir Walter Foster: How were those cows fed during the previous 12 hours?—Those cows were lightly fed; they were all in very good condition indeed; they were on winter feed entirely; they were kept in the house altogether.—They were in the house the whole time?—Yes. They were receiving 2½ lb. of decorticated cotton cake meal, 2½ lb. of pea meal, 2½ lb. of malt culm, 2½ lb. of bran, that is, 10 lb. of meal; they were receiving 80 lb. of pulped roots, 10 lb. of chaffed oat straw, and 7 lb. of long hay. I have submitted that ration to feeding experts, and they tell me that the albumenoid ratio in that food is too high, and that it is a more concentrated ration than is recommended in any case as the correct ration.—Sir Mark Stewart: What sort of cows were they?—Unpedigreed shorthorns. I have some analyses taken on the same day on Guernsey cows, which are very much higher.—Sir Walter Foster: Is this a day's fodder?—Yes.—Mr. Channing: Is this a day's fodder for one cow, 80 lb. of pulped roots?—Yes. A cow would eat nearly double that quantity if she were allowed as many as she would take. These are large framed cows which I am speaking of.—Sir Walter Foster: The total solids in your milk for this single day's experiment were, on an average, 11.96 per cent?—11.96.—You did not extend those experiments beyond one day?—A fortnight after I reduced the quantity of roots, and I took certain selected cows, those whose milk was the poorest of the 40; there was some increase in the fat and in the solids after a portion of the roots were discontinued.—Then these experiments of yours were made really with respect to the effect of feeding?—Yes. Then on the 10th and 11th of this month I had further samples taken from the milk of the same cows; I did not take each individual cow's milk, but only an average sample from the bulk of the milk from all those cows, and there is an even greater discrepancy there than there is between the morning's and afternoon's milk. These cows at the time were living on grass alone, without any extra food.—Colonel Bagot: They were out then?—Yes, they were out then, and getting nothing but grass.—Sir Mark Stewart: The same number of cows?—Yes; and practically the same cows most of them.—When did they calve?—At all periods of the year; they are calving every week. I have here a table showing the number of weeks that each cow had been in milk, and the quantity of milk that she was giving each day.—But the majority of those cows must have been giving full milk?—They were in every stage of milking.—Sir Walter Foster: Well, tell us the result of your experiments now, if you please?—On the 10th of July the morning's milk showed 3.25 per cent. of fat, and the afternoon's milk 4.57 per cent.; the average of that was 3.91 per cent. of fats. On the next day, on the 11th of July, the morning's milk only showed 3.09 per cent. of fat, but in the afternoon it was up to 4.70 per cent., bringing the average to 3.90 per cent., which is practically the average of the preceding day.—Mr. Herbert Gardner: Do not you think that these averages would have been more satisfactory if they had been extended over a lengthened period showing how much they varied?—I thought that taking two days, one after the other, it would fairly represent the composition of the milk at this period of the year.—Mr. Channing: This was done by the same analyst of course?—Yes; these samples were taken most of them by the analyst himself.—Sir Mark Stewart: Was the weather the same?—Practically the same; I do not know that there was any change in the weather to account for the difference in these two days' milk.—Sir Walter Foster: Then you put in these figures merely for the purpose of showing that on certain selected days your cows gave very different milk in the morning from what they gave in the evening?—And also to show that well-fed cows can give milk

which does not come up in the morning to the recognised standard.—Mr. Jeffreys: What were the total solids on July the 10th?—12.52 per cent.—Sir Walter Foster: Have you anything else to say about this?—Yes. If possible, I think it would be desirable that the inspector should take a sample at each end of the day, if he could be sure that it was the same dairy milk that he was taking it from.—But the inspector going round the town could have no knowledge of the dairies from which the milk came?—That would be rather difficult. There is one way to get out of the difficulty. In every case where a farmer is prosecuted for selling milk below the standard, surely if the magistrate has any reasonable doubt of the *bona-fides* of the farmer he should allow an appeal to the cow.—Mr. Frye: Take a sample from the cow, do you mean?—Yes, have a sample taken from the cow, and if it were proved then that it corresponded with the milk on which the proceedings were taken, then, even if it came below any standard which may be fixed, the farmer should not be liable.—Sir Walter Foster: Then it would be easy for an intelligent farmer to have a cow always ready that gave a very poor quality of milk, would it not?—The inspector should take a sample from the mixed milk of all the cows in the dairy. Mr. Frye: But you said just now that they varied so much every day?—They do more or less, but still they would not vary to that extent. I think it would be quite safe to allow that, unless it was so very near the standard that a point or two would make the difference.—Sir Walter Foster: Would not this condition of things be very difficult to enforce with reference to people keeping one or two cows. These difficulties that you point out with reference to large dairies, in the difference of the milk of the morning and the evening, would apply also to vendors of milk who have one or two cows only, and those cows might be yielding milk which, without being of very poor quality, would be below your standard?—It is quite possible.—And it would be very hard upon him to prosecute him for selling an adulterated article when he was selling a genuine article?—I want to avoid that difficulty. If he has only one or two cows, and he appeals to the cow, and it is proved that the milk is given as he sold it, that man should be discharged from the prosecution, whether he be a small man or a large farmer.—In the case of a small man it would be more easy to make an appeal than in the case of a large farmer, would it not?—It is an easy matter, in the case of a large herd, to take a little out of each churn of milk.—But the system of appealing to the cow, you think, would be fair to the large dealer, and to the small dealer?—I think it would be equally fair to the man who kept a single cow as to the man who kept a hundred. If that appeal was allowed you might safely fix the standard higher than you otherwise could without it.—It would complicate considerably, would it not, the proceedings in all those cases?—At the same time it would protect the honest man from being branded as a rogue.—Mr. Herbert Gardner: It might be a matter of great expense to the small man, might it not?—If the appeal to the cow bore out the farmer, the prosecutor should be at the expense.—Sir Walter Foster: It would fall on the Local Authority, that is to say?—Yes.—Mr. Frye: But different breeds of cows give different qualities of milk?—Yes. I have some figures from Guernsey cows, taken on the same day as I took the other.—Sir Walter Foster: Will you give us those figures now?—In the morning the solid fat of the Guernsey cows was 4.57 per cent., and in the afternoon it was 5.30 per cent.—Mr. Channing: How many cows?—Eleven Guernsey cows. The average of that was 4.94 per cent.—Sir Walter Foster: That was the average of fatty solids?—Yes.—What were the total solids?—14.51 per cent.—Mr. Colston: Have you there the figures with regard to those cows in the summer as well?—No, I did not think it necessary to take them. I may say that these Guernsey cows were fed on exactly the same ration as the shorthorn cows—at least a proportional ration; they did not eat so much of it; they ate as much as they liked, but they had the same mixture.—Would they eat two-thirds of what the others did?—Practically, they did eat two-thirds of what the others did.—Sir Walter Foster: And their milk shows the same variation as you have contended is shown between the morning and afternoon's milk?—Yes.—Mr. Herbert Gardner: I do not know whether the question of separated milk arose before I came into the room; have you given any evidence as to that?—No. I was not asked any question with regard to that?—With regard to separated milk, do you consider that it is an article which ought not to be sold at all?—No, I think it ought to be sold, but it should be sold for what it is.—And you would object to any mixture being made of separated milk with the full milk?—I most strongly object to any mixture at all.—Are you aware whether, at the present moment, any mixtures are sold as mixtures by the milk producers?—I believe it is done to a very great extent indeed.—Knowingly done?—I may say that I know it is done.—But the purchaser knows, does he not, that he is buying a mixture of that description?—No, the purchaser does not know it; he expects that he is buying whole milk.—Are you not aware at all that there are cases of institutions and others who wish to buy a cheaper article, and ask the dairies to accommodate them with that cheaper article, a proportion of separated milk being mixed with the ordinary milk?—I know that a great many people demand milk at such a price that if they would only think of it they would know that they could not get milk at that price.

(To be continued.)



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## Food and Sanitation.

SATURDAY, DECEMBER 15TH, 1894.

### DISEASED MEAT PENALTIES.

THE action of the Newcastle magistrates, reported in another column, in sending the vendors of diseased meat to prison is much to be commended. It would be distinctly to the public advantage if magistrates of other towns would adopt a similar course in like cases, as at present the penalties usually inflicted are really an encouragement to the people who are guilty of these offences. For example, at Grimsby on November 19th, Messrs. James Nelson and Sons, meat importers and salesmen, trading in Grimsby under the name of John Bull and Co., were summoned for having in their possession seven pieces of meat unfit for human food. The defendants had a very large business, and have a registered office at 57, Charterhouse-street, London. Mr. Moody, the sanitary inspector, discovered the meat in a cool house at the rear of the premises in a tub. It stank abominably and was very soft and greasy to the feel. The inspector could push his finger through it; it was in a state of decomposition and quite unfit for human food. On Messrs. Nelson's salesman being asked what he intended to do with it, he replied, "Now that you have seen it, I shall throw it away." The inspector asked why it was in the tub, the salesman replied, "That pickle is a month old, and I was going to throw it away; I had made a fresh pickle and was going to see if it would sweeten it." Mr. Moody said, "You can't sweeten stinking meat"; whereupon the manager asked "if there would be any trouble." The meat was so bad that Dr. Bruce, who saw it, said he had great difficulty in getting the smell off his fingers. He washed his hands with a strong carbolic solution, but could not get the smell off his hands that night, although the carbolic was so strong that the next day the skin peeled off his hands. Then, in cross-examination, Messrs. Nelson's salesman, Mr.

Brewster, said that he did intend to use the meat. From what was said at the trial of the case by Mr. Scott, the manager to the defendant's firm in Grimsby, Messrs. Nelson's instructions were that in case of finding any meat bad, it was to be thrown away at once, so that Messrs. Nelsons do not appear to be to blame in the matter; but their salesman, who appeared thus to have defied their instructions and to have had in his possession meat of so abominable a character as this, practically escaped punishment, the magistrates finding the case proved, and inflicting a fine of £5 5s. including costs. Such a penalty for so grave an offence as this is absolutely ridiculous. But in a case tried before different magistrates on November 15th, at the same town, there was even a more flagrant instance of miscarriage of justice. A Mr. Charles Schulke, pork butcher, was summoned by Mr. Moody for having 213 pounds of pork unfit for human food. Mr. Moody discovered the meat in a barrel standing in a dark corner, near the boiling-house. An examination made by Mr. Moody and Dr. Bruce showed that it was mostly putrified, very soft and flabby, and of a very dirty yellow colour. A considerable number of maggots were among the stuff. In this case the magistrates inflicted a penalty only of £5 including costs. It is most unsatisfactory and certainly prejudicial to the public that such decisions as these should be given.

### MUZZLING FOOD AND DRUGS ACT INSPECTORS.

IF the *Manchester City News* of December 8th correctly reports a discussion that took place at Stretford on December 4th, an instructive object lesson was afforded of how not to suppress adulteration. Mr. Thornley, sanitary inspector, reported that he had taken a number of samples of spirits which had been analysed by the county analyst, and that in one case the sample disclosed 8 per cent. of adulteration, or, to put it plainly, it proved that the publican was selling 8 per cent. of water at spirit price. If there is one thing necessary in enforcing the Adulteration Acts it is that they should be absolutely impartial, that the person who sells excess water at whiskey rates should be punished equally with the vendor of excess water at butter price. Mr. Thornley, therefore, in giving some attention to Boniface, was doing a useful public work in apparently an impartial manner. Judge of our surprise, then, at seeing in the *Manchester City News* the following remarks attributed to Mr. Charles Estcourt, a member of the Stretford Board, and who, we believe, is public analyst for Manchester. Mr. Estcourt is reported to have said he thought it would be well if the inspector confined himself to the obtaining of milk and other food for the purposes of analysis. How came he to take samples of spirits?

These remarks led to a discussion in which the following astonishing opinions were expressed:—

Mr. Ingram, chairman of the Sanitary Committee, said the inspector asked him for permission to take samples of milk sold in the district, as it was suspected that a case of infection had originated from that source. As chairman of the Sanitary Committee he gave the permission asked for, whereupon the inspector said he should also like to have permission to take samples of wines and spirits, which were included in the Food and Drugs Act. Such a thing had never been done before so far as was known, and the inspector thought it would be a proper thing to obtain samples. In a joking mood he (Mr. Ingram) gave the required permission, saying to the inspector that if he expected that adulterated wines or spirits were being sold in the district it would be well to settle the matter by analysis. Samples of spirits were obtained, and the result was now before the Board.

Mr. Roberts said he thought it was ridiculous for the inspector to go about finding fault in this way. He had his work cut out for him if he looked after the sanitary condition of the district. The analysis of spirits was not a matter for the Board, but, as he understood, it was



dealt with by the Excise authorities. The inspector had gone out of his way in taking samples, and he had been engaged in a wild goose chase. Besides, he was a teetotaler, and therefore knew nothing about the quality of whiskey, or pretended that he did not. If he had come to him (Mr. Roberts) he would have been able to have given the inspector an opinion upon it.

Mr. Wainwright thought it was a piece of impertinence on the part of the inspector to take samples of spirits. As it turned out, however, the spirit merchants of the district were to be congratulated on the result of the examination. With the exception of one case, all the samples were satisfactory in quality. He contended that the inspector ought to have received the sanction of the sub-committee of the Sanitary Committee before taking samples of spirits.

The Chairman said the inspector was in order in taking samples of spirits, as they were included in the articles enumerated in the Food and Drugs Act, and he had also obtained the sanction of the chairman of the committee.

Mr. Slyman moved and Mr. Ingram seconded a resolution to the effect that a letter be sent to the person whose sample of whiskey was found to be below proof, calling his attention to the matter. Mr. Ingram said he would take the responsibility of obtaining samples. The Board had not, he contended, a better officer in their service. As it turned out, the spirit merchants were to be congratulated on the result of the analyses.

Mr. Roberts moved and Mr. Wainwright seconded an amendment that the report lie on the table. Mr. Wainwright said he seconded the amendment simply because the taking of the samples had not been brought before the sub-committee.

The resolution was adopted by seven votes to three.

The discussion needs no comment, but we may reasonably ask why a vendor of excess watered butter and milk should be prosecuted whilst the publican selling excess watered spirits goes scot free, and confess our astonishment that a public analyst—if this be the same Mr. Estcourt—should enunciate such a doctrine. The clerk informed the members at the close of the proceedings that this would be the last meeting of the Stretford Board. The knowledge that this is the case is comforting. It is to be hoped the new Board will have a clearer appreciation of its duties, at least in so far as the suppression of fraud in food, drugs, or drink, is concerned.

## PRISON FOR DISEASED MEAT VENDORS.

At Newcastle Police-court, on November 27th, before Mr. J. Cameron Swan and Alderman Bell, Henry Robert Stobie was summoned for having two pair of beasts' lungs, part of liver, and four quarters of beef, in his shop at 46, Shields-road, Byker, exhibited for the purpose of sale, which were unfit for human food, as was also a quantity at a meat-shed in the cattle market. Mr. Holmes, on behalf of the Newcastle Corporation, prosecuted, and Mr. Clark defended.—Thomas Dodds said he was assistant food inspector, and on Thursday, November 8th, he went to the defendant's shop and saw some meat there. He saw some ox lungs, which he took down, defendant and his man being present at the time. He asked defendant if the lungs belonged to the four quarters at Tindall's, and he said "Yes," and then said he was not sure. He examined the lungs, and found them to be laden with tuberculosis. He told the defendant he would take possession of them, and defendant wanted half; but he persuaded him to give them up, and defendant went with him to the Town Hall, where they were examined by Dr. Armstrong and Mr. Hedley. He saw four quarters of beef hanging in the shop with some of the pleura pulled off.—William Hedley said that on the 8th he went to the defendant's shop; defendant's man, Curry, was there. He found four quarters of beef hanging up in the front shop, and on examining them found nearly all the pleura peeled off the ribs. The glands were very much enlarged. In the back shop he found a pair of lungs hanging on a rail, and also the half of a beast's liver. The liver was very much gorged with blood, and was quite unfit for human food.—Dr. Armstrong gave evidence to examining the meat, which, he said was not fit for a dog.—Mr. Clement Stevenson, F.R.C.V.S., having given confirmatory evidence, this closed the case for the prosecution.—Mr. Clark, for the defence, submitted that the summons was not proved, there was no evidence that the meat had been deposited for sale. There was no evidence even that the shop was open. All that had been proved was that it was in the shop, and bad meat.—The Chairman

intimated that they wished to further question Hedley.—Mr. Clark objected.—The Chairman persisted, and Mr. Hedley was recalled, and said the meat was hanging up in the shop near the door, and along the side of the shop. The lungs were in the back shop. In reply to Mr. Clark, he said he saw a bullock's head in the shop which he did not remove, as it did not belong to the carcass seized. Mr. Clark explained that he only took such objection as he was entitled to take. They went on the facts, and not such assumptions as might be proved. The only explanation he could give was that Stobie was pretty well advanced in liquor when the meat came into the shop.—William Curry said he was assistant in Mr. Stobie's shop, and on the day in question his employer was slightly the worse for drink when the meat arrived. He did not expose it for sale, as it did not appear very good, but kept it in the solid until Stobie could be informed. He had had instructions to that effect.—In reply to Mr. Holmes, witness said the beast was bought for £6 5s. (about 4s. per stone), which, it was alleged, was a little below par for second-class meat. He did not sell the other half of the lungs.—Mr. Clark said he admitted all the facts with regard to the meat at Tindall's, that the beef was diseased, and that it was there for sale.—The Bench, after considering the case, intimated that they considered the case proved, whereupon Mr. Holmes addressed the Bench, and said that he had a very painful duty to perform. The Sanitary Committee, having regard to the importance of the case, had directed him to ask for a sentence of imprisonment.—Mr. Clark: I object. What right have the Sanitary Committee to ask for a sentence? It is for you to judge, the decision resting with your discretion.—The defendant's character was then read out, it appearing that he had been at the court twenty times before. In January, 1882, he was fined £5 for selling diseased meat. In June, 1882, he was dismissed for the same offence. In June, 1888, he was again dismissed for selling diseased meat, and in 1890 he was fined £10 and costs for a similar offence.—The Bench said that they had a most serious duty to perform, and that they were really responsible to the public for its protection, but they could not pass over the case with a less light sentence than one month's imprisonment in each case—two months in all.

At the Newcastle Police-court, on November 26th, Jorgen Roderson, a cowkeeper, was charged with having on his premises on November 4th, four quarters of beef which were diseased and unfit for food. It was shown that Assistant Inspector Dodds visited defendant's cowshed on November 1st, and found a veterinary surgeon attending one of the cows, which was suffering from milk fever. On again visiting the place on the 3rd, he found the animal had been killed, and two men were in the act of loading the beef on to a butcher's barrow, defendant saying he had sold the beef to a butcher, and had received 10s. as part payment. The beef was detained, and on the following morning (Sunday) Dodds and Inspector Hedley returned and took possession of it. It was seen the same day by the medical officer of health, Dr. Armstrong. On November 5th the beef was ordered by the magistrates to be destroyed.—Dr. Armstrong proved that the meat had a sour smell, was in a soft, sodden condition, and quite unfit for food.—A butcher proved that he was called on by defendant's nephew to kill the cow at the cowhouse. When he got there she was nearly dead. He dressed the carcass, and received 5s. for his trouble. He refused to buy the flesh at any price, and told them it was "no use." Another butcher, named Urron, proved that on hearing defendant had a carcass of beef for sale he went to defendant's, and bought the carcass for 50s. He gave defendant 10s. as part payment. The beef was hanging in a dark place, he could not see what it was like. Defendant said it was all right, and he thought it felt right enough to the touch. He did not know the animal had recently calved.—The chairman censured the witness for buying such stuff, saying he must have known it could not be good meat when he was getting 34 stones of flesh for 50s.—Defendant pleaded ignorance of the law, saying he thought he could sell it to the butcher, the responsibility resting with the butcher if he sold the flesh for food to the public.—A penalty of £5 and costs was imposed.

## AN IMPUDENT MILK SWINDLE.

THOMAS FELIX STEVENS, who traded under the name of the Defiance Farm Dairy Society, at College-place, Chelsea, and elsewhere, appeared before Mr. Sheil on December 5th, to answer a summons at the instance of the Vestry of St. Mary, Battersea, for selling milk from which 40 per cent. of the original cream had been abstracted.—Mr. W. W. Young, who supported the summons, said the defendant's *modus operandi* was to flood the neighbourhood with bills declaring that the Defiance Farm Dairy would deliver in the streets daily pure milk at 2d. a quart for one week only, and after that a charge of 2½d. would be made. On October 23rd a lad in the service of the vestry made a purchase, and it was forwarded to the public analyst for analysis.—The defendant said he had no intention to defraud. There was a notice on the barrow stating that he sold pure separated milk.—Chief-inspector Young was questioned as to this, and stated that his attention was drawn to the notice which was affixed to the handle of the barrow.—Mr. Sheil held that a notice on the handle of the barrow was not a notice at all. He believed that the defendant had committed a deliberate fraud upon the public.—Previous convictions for similar offences having been proved against the defendant, Mr. Sheil imposed a penalty of £10, with £1 2s. 6d. costs, or one month in default.



**BUTTER ADULTERATION.**

THE Anglesey and Carnarvonshire Dairy Institute wrote asking the Bangor Council to co-operate with them in securing a more efficient administration of the "Food and Drugs Act," with the view of preventing the adulteration of butter so prevalent in the district, and suggesting that local authorities should ask the Commissioners of Inland Revenue to appoint an officer for the district to administer the Acts in question, and to test the butter, etc., exposed for sale in the local markets. It was proposed by Mr. David Williams, seconded by Mr. Hugh Hughes, and resolved that the Council should petition the Commissioners of Inland Revenue to appoint an officer for the purpose suggested.

**CHESHIRE FARMERS AND FRAUDULENT DAIRY PRODUCE.**

AT a largely attended meeting of farmers at Nantwich on December 8th it was pointed out that by an admixture of stearine and other chemical processes an article purporting to be cheese, but in reality a lump of stearine fat, competed in the markets with pure Cheshire cheese. That such a spurious article should compete with Cheshire cheese was scandalous, and an injustice to Cheshire farmers engaged in the manufacture of the genuine article. The deception was characterised as a fraud on the public, and a resolution was unanimously carried calling upon the members for the county to give their close consideration to all matters relating to the adulteration of dairy produce which were brought before Parliament, and expressing the opinion that the close resemblance of margarine with butter and margarine cheese with pure cheese was the secret of the large sale of these articles.

**ADULTERATION OF LARD—CURIOUS DEFECT IN THE LAW.**

ON December 4th Mr. Gwilym Davies, of Weatherall-street, Aberdare, was summoned for selling adulterated lard. Mr. Kenshole defended.—The evidence was to the effect that Inspector Davies had called at the defendant's shop and was supplied by the defendant's wife with  $\frac{1}{2}$  lb. of lard wrapped up in a piece of paper. The inspector swore he had not seen any printed matter on the paper.—For the defence it was sworn that the lard was wrapped up in a paper bearing the following notice in print:—"This is sold as choice lard combined with beef suet."—Mr. Kenshole quoted a number of cases in support of his contention that it was quite sufficient to place a label on the parcel without drawing the attention of the purchaser thereto.—Mr. Rhys, in dismissing the case, said he regretted very much that after the decisions quoted by Mr. Kenshole it was impossible for them to convict, but he hoped they would shortly have the law changed.

**A CURIOUS DECISION.**

AT the South Shields Petty Sessions on November 20th, John E. Lawson, farmer, of Hebburn, was charged with selling milk containing 12 per cent. of added water. Mr. William Wilson, assistant inspector of weights and measures and food and drugs, said he bought a pint of milk from the son of the defendant in consequence of instructions received from Mr. James Laidlaw. He told the boy that he was buying the milk as a sample, to be sent to the public analyst, and divided it into three parts, giving the boy one bottle and retaining the others, one of which he afterwards forwarded to the analyst. Mr. James Laidlaw, inspector of weights and measures and food and drugs, also gave evidence. Mr. Davidson, for the defence, called Mary Clarke, Joseph Lawson, a son of defendant, and a little girl, his daughter, who said that from the cows being milked until the milk was bought by Wilson it had not been tampered with in any way. The Bench dismissed the case.

**A RIDICULOUS FINE FOR SELLING SPENT GINGER.**

AT the South Shields Sessions on November 20th, William Hunter, grocer, of Hebburn, was summoned for selling "exhausted ginger," the certificate showing that the ginger contained 30 per cent. of spent ginger. The Bench reserved their decision two weeks previously until that morning, from the facts of the case then being that the box from which the ginger was sold was labelled "warranted genuine," but upon an analysis being taken it was not found to be genuine ginger. Mr. Thompson said a technical legal offence had been committed, because the ginger in the box was no doubt "exhausted ginger," and the defendant had no written warranty within the meaning of the Act to say that it was genuine, although the label upon the box stated "warranted genuine." The label had obviously misled the defendant; but they were bound to convict, and they fined him 1s. including costs. The Clerk said that had the defendant purchased the ginger direct from the manufacturer's, there would have been no conviction; as it was, the ginger was bought from a second party. The Court was clearly of opinion that the defendant had not committed a wilful offence.

**ALFRETON PETTY SESSIONS.**

WILLIAM HARRISON, grocer, Ironville, was charged with having, on November 6th, sold 3oz. of a mixture of chicory and coffee without stating that it was a mixture. William Marple said he asked for 3oz. of coffee, and was supplied with the article. Colonel Shortt showed that the article was half chicory, and had

been sold as coffee. Defendant's wife said she bought the article for coffee at Goodlife's, Nottingham, and produced her invoice, showing that it was entered up as coffee. Colonel Shortt drew attention to the price (1s. per lb.) at which it was bought to indicate that it could not be pure at the price. To pay 20s.—Thomas Holmes, grocer, Ironville, was charged with having, on November 6th, sold one shilling's worth of tincture of rhubarb which was found to contain 15 per cent. of water. W. Bunting, traveller for Calvert and Son, Belper, said he sold the tincture 2½ years ago, and the defence was that the spirit had evaporated. To pay 33s.—Albert Lowe, grocer, Ironville, for having sold half a pound of margarine without having on it a proper label, and also with exposing margarine for sale without a label being attached, had to pay 41s. for the first offence, and 18s. 6d. for the second.

**ROTTEN TINNED FOOD.**

GEORGE SKEGGS and George Osborn, of Stepney, were summoned at the Thames Police-court on December 7th, at the instance of the Poplar Board of Works, for exposing for sale 392 tins of lobster which were unfit for human food.—Mr. Farnfield prosecuted.—Mr. R. E. Miners, sanitary inspector, said that on November 30th he saw the defendants with a barrow, on which were tins of lobster. The tins were being sold at 1½d., and every one was unwholesome. Witness opened three tins, and they were in a bad state. There were 15 opened tins on the stall, and they were also bad. The tins were blown.—A constable said several persons made complaints to him, and he sent for Mr. Miners. The lobster looked green.—Dr. Alexander said he saw 13 dozen tins opened, and they were all bad. The contents were rotten and quite unwholesome. It might kill anyone to eat such stuff. Not a single one was good.—For the defence Mr. Gardner did not dispute that the goods were bad; but the mere possession was not unlawful. All tins sold were first opened, and the bad ones put under the barrow. A notice was put up that all bad ones would be changed.—Mr. Dickenson said he agreed with Dr. Alexander, and the defendants would each be fined £5 and 30s. costs.

**ANOTHER RIDICULOUS FINE AT KEIGHLEY.**

ARTHUR NOBLE KERSHAW, chemist and druggist, Corn Mill Bridge, was summoned by Arthur Randerson, the local inspector under the Food and Drug Acts, for selling laudanum not of the substance and quality demanded by the purchaser. Mr. W. A. Robinson appeared for the defendant.—Mr. Randerson stated that on November 1st he bought a quantity of drugs from Mr. Kershaw for the purpose of analysis. Samples were sent to Mr. Allen, county analyst, of Sheffield, and all were found to be correct except the one of laudanum. Mr. Allen's certificate in regard to that, ran:—"The sample contained the parts as under: Water, 73.0; alcohol, 23.5; extractive matter, 3.5. These results showed that the sample was very deficient in alcohol, containing only one-half of the amount which would have been present had the laudanum been prepared according to the directions of the British Pharmacopoeia."—From the statement of Mr. Robinson, and the evidence of Mr. Kershaw, it appeared that the latter had followed the example of his predecessor in business, and prepared a gallon of laudanum at a time and kept it in a gallon jar. It was sold out in very small quantities, and as a matter of fact Mr. Randerson was supplied from the bottom of the jar, and after he had been served there were only 2½ ounces left. By the constant removal of the cork and the heat of the shop some of the alcohol had apparently evaporated, but the medicinal part of the drug was there in proper quantity.—The Bench thought that the offence was due to a little want of care, and only imposed a nominal penalty of 5s. and costs.

**A SWINDLED RETAILER.**

MARY HAMMOND, grocer, of High-road, Whetstone, appeared before Mr. W. P. Bodkin and other magistrates at Highgate, on December 10th, in answer to two summonses, one under the Adulteration of Food Act, charging her with selling as "butter" an article containing 80 per cent. of fat that was not butter fat; and the other under the Margarine Act, charging her with selling margarine not labelled as such.—Mr. Ricketts, jun., solicitor, defended.—Mrs. Hammond, it appeared, is the widow of a postman, with four children to support. When her husband died a few years ago a public subscription was got up in the neighbourhood by means of which she was put into business in a small "general" shop. On November 19th Mr. Arthur Liddall Bridge, who is a district inspector of weights and scales, and also a food inspector under the Middlesex County Council, called at her shop to inspect the weights and scales, which he found quite correct. As he acted in a dual capacity he always, as he told the Bench, tried to "kill two birds with one stone," so, seeing some "butter" in the shop, he bought a sample, which on analysis was found to contain 80 per cent. of foreign fat.—The defence was that the defendant bought the article from a wholesale and retail firm as "butter," and not as margarine, at 11d. a pound—in proof of which invoices were produced—and that she sold it just as she received it, in the full belief that it was "butter," and consequently did not use a margarine wrapper.—The Bench fined her 1s. and costs on the first summons, and the second was withdrawn.—Mr. A. J. Reynolds, one of the magistrates, said that the firm who sold her the "butter" ought to pay the costs.



## PROSECUTION CASES.

JOHN REDECLIFFE, Ugborough, was summoned at Ivybridge Petty Sessions on December 3rd, at the instance of Superintendent Ryall, with selling adulterated brandy which Dr. Blyth (county analyst) certified was 46 degrees below proof. The Bench fined the defendant £2 8s. inclusive.

William and Jane Jones were summoned at Lambeth on December 5th, by Mr. J. Edwards, sanitary inspector, on behalf of the vestry of St. George-the-Martyr, Southwark, for exposing for sale a parcel of margarine without having the same labelled in accordance with the requirements of the Margarine Act. Mr. Hopkins fined the defendants 40s. and costs.

Alfred Sault was summoned at Loughborough on December 5th for selling gin  $9\frac{3}{4}$  degrees below the proper standard. Deputy Chief Constable Smith proved the case. Fined £3, including costs.—George Chapman, Mountsorrel, was also charged with selling adulterated gin. The gin in this case was proved to be four degrees below the proper standard. Fined £1 10s.

Joseph Collins, beer-house keeper and milk dealer, Loughborough, was charged with selling adulterated milk on November 11th. Deputy Chief Constable Smith produced an analysis showing that the milk sold by defendant contained 6 per cent. of added water. Defendant denied tampering with the milk, and the case was dismissed on payment of costs.

Annie Roberts, refreshment-house keeper, Blackwells, was summoned at Old Hills on December 5th for selling milk not of the nature and quality demanded. Mr. Van Tromp, inspector under the Sale of Food and Drugs Act, stated that on December 2nd milk was purchased from the defendant's shop from which 37 per cent. of the cream had been abstracted. Defendant said she could only account for the extraction through the milk standing a long time. The magistrates being of opinion that the offence had been committed unwittingly, they would only order her to pay the costs, £1 4s. 6d.

At the Wolverhampton Police-court on November 28th, Mary Ann Fellows, grocer, Coseley, was fined 10s. and costs for selling as ground ginger an article which contained 70 per cent. of "spent or exhausted ginger."

William Beaton was fined 40s. and costs at Liverpool on December 5th for having sold cheese as pure cheese which had been adulterated with 15 per cent. of lard.—R. Smith, was fined 20s. and costs for having exposed a tub of margarine on his counter without a label. Inspector Baker stated that on the top of the margarine was a layer of butter ticketed "Delicious, 1s." The arrangement was a lay to deceive the customer.

Alfred Selby, Belper, was charged by Captain Sandys, inspector under the Food and Drugs Act, with selling tincture of rhubarb which was practically devoid of saffron. The defendant said he sold the drug as received. It had been in his shop over six years. Fined 10s. and costs.—Mary Wayne, Shottle-gate, was charged with selling rum adulterated to the extent of 5 degrees under the allowance. Fined 5s. and costs, or 26s. in all.—James Reddish, Cow-hill, Belper, publican, for selling whiskey 5 degrees under the stipulated strength, was fined 5s. and costs.

William Sims, Hinckley, was charged at Hinckley Petty Sessions on December 6th with selling milk to Superintendent Granger on November 11th which Dr. B. Dyer, the county analyst, certified contained 14 per cent. of added water. No change had taken place in the constitution of the milk which would account for the change. The Chairman said this was the seventh case of prosecution for selling bad milk in the county that week. The joint committee had appointed one of the best analysts in the county in order that the certificates might be genuine, and the Bench considered that Dr. Dyer's certificate brought the case to a serious point. To protect the public defendant would be fined £2, including costs.

James Leiper, Fieldhead Farm, Strathaven, was charged at Glasgow on November 5th with having on November 3rd, 6th, and 17th, supplied milk to a Glasgow dairyman, which on being tested by the city analyst was found to contain 9, 14, and 17 per

cent. of added water. Leiper said the milk was weaker because the cows were newly on to turnips. A fine of £4 for each case was imposed, making £12 altogether.

Alfred Sammon, farmer, Braughing, Herts, was summoned at West Ham on December 6th by Dr. Charles Sanders, medical officer of health for West Ham, for selling adulterated milk. The defendant, it seems, was under a contract to supply pure milk to the order of the Dairy Supply Company (Limited), and on November 12th some of his churns were delivered at Stratford station. Here Mr. Crocker, a sanitary inspector, took a sample of the milk, and this, on being analysed, was found to be adulterated with 8 per cent. of added water. The defendant said that when he received a complaint from the company he thought it was the mangolds the cows had, and he at once got oil-cake to enrich the milk, but afterwards it was proved to him that it was water, and on making inquiries he found that the dairymaid, after washing the cans, left the water in. Mr. Baggallay observed that the analyst, in putting the adulteration at 8 per cent., assumed the milk was poor in quality. He was afraid that what this careless dairymaid had done often happened. The evil of it was that he frequently fined small dealers, and in some cases doubtless it was the wholesale dealer who was to blame. He must fine the defendant £10 and 23s. costs.

George Pethybridge, of the Cowley Bridge Inn, was summoned at Exeter on December 6th, at the instance of William John Wreford, inspector under the Food and Drugs Act, for selling milk in November last adulterated with at least 14 per cent. of water. The Bench fined defendant 16s. 6d., inclusive.

Charles Ward, licensed victualler, of Fleckney, was summoned at Market Harborough Petty Sessions on December 4th, by Supt. Shillecock, with selling a pint of gin on November 10th which was  $42\frac{1}{2}$  degrees below proof. Fined £2, including costs.—Benjamin Moore, of Market Harborough, milk seller, was summoned for selling milk which was adulterated with 15 per cent. of water. Supt. Shillecock spoke of having purchased the milk. Fined £2, including costs.

George Mills, landlord of the Marquis of Granby Inn, Melton, was summoned for selling gin not of the nature, substance, and quality demanded. Supt. Bott stated that on November 25th he purchased a pint of gin, which was found to be 2 per cent. below the limit allowed by law. A fine of £1 was imposed.

Samuel Leach was summoned at Oldham Police-court on November 30th for selling milk which was deprived of 25 per cent. of fat, and for adulterating the same milk with 12 per cent. of water. The Magistrates fined the defendant 10s. and costs in each case.

John Clower was fined 23s. at Belvoir Petty Sessions on December 4th for selling adulterated gin at Redmile on November 13th. Inspector William Höllick proved sending an agent for a pint of gin, which the certificate of the analyst proved to be  $42\frac{1}{2}$  per cent. under proof.

Edward James Legg was summoned at Thames Police-court on December 4th for diluting beer to the extent of  $4\frac{1}{2}$  gallons of water to the barrel of 36 gallons. Mr. Mead imposed a fine of £12.—Joseph Saywood Owers, a beer retailer, of 145, Devon's-road, Bromley, was summoned for a similar offence. It was stated the dilution was equal to upwards of four gallons of water to the barrel. Mr. Mead imposed a fine of £10.

Henzler Whitmore, grocer, Shelton, was summoned at Stoke on November 30th for selling adulterated butter on November 23rd. Evidence was given that an inspector visited the shop on November 23rd and took a sample of the butter which was sold at 1s. per pound. When analysed it was found to consist of one part of butter and two parts of foreign fat. A fine of £10 and costs was imposed.

William Sullivan was charged at Cork on December 5th, by Sergeant Ralph, inspector under the Foods and Drugs Act, for having sold milk which was deprived of fat to the extent of 25 per cent. A fine of 2s. 6d. and costs was imposed.—Mrs. Cronin, Castle-street, was prosecuted by the same

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To make CHAMPION'S Mustard, it is essential to use only the finest Mustard Seeds, inasmuch as chillies or ginger cannot be employed to produce pungency, nor can turmeric be utilised to secure high colour; consequently ripe and perfectly-coloured Mustard Seed only can be used.



complainant for having on November 15th sold him a quantity of butter which, when analysed, was found to contain 20·26 per cent. of water. The Bench fined her 2s. 6d. and costs.

At the Devonport Petty Sessions on December 5th, Fred Code, grocer, of George-street, was summoned by Mr. Geaton, inspector under the Food and Drugs Act, for selling on November 16th  $\frac{3}{4}$  lb. of adulterated coffee. The coffee on being analysed, was found to contain 40 per cent. of chicory. Code admitted his guilt, but contended that the article was sold by his wife, who did not know the business. The Bench considered that the defendant had sold the mixture inadvertently, and fined him 5s. and costs.

A Tickhill licensed victualler, named William Whinfrey, was summoned at Doncaster on December 8th for selling whiskey 28·4 degrees under proof, and gin 39·4 degrees under proof. The cases were proved by Mr. Joseph Wilson, of Rotherham, inspector under the Food and Drugs Act. The whiskey contained 4·5 per cent. excess of water, and the gin 6 per cent. excess of water. The defendant said the mistake occurred owing to his hydrometer being wrong. Mr. Wilson, in answer to the chairman, said he believed the defendant had made a *bonâ-fide* mistake, but he ought to have a different hydrometer. The chairman (Mr. Yarborough) said there might have been a mistake made, and the Bench would accept that defence, but there must be no repetition of anything of the kind, or the penalty might be severe. Defendant was ordered to pay the costs.

At the Shire Hall, Nottingham, on December 9th, Mary Ann Pickard, milkseller, of Hucknall Torkard, was summoned for selling adulterated milk on October 22nd. Inspector Story deposed that on the date in question he went to defendant's shop and purchased a sample of milk from defendant, and divided it into three parts. The milk was analysed, and it was found to contain 12 parts of added water. The charge against defendant fell through owing to a technicality, the summons having been first served on defendant's husband.

At Tewkesbury Police-court, on December 7th, a shopkeeper named Mary Ann Dickenson was summoned by Police-constable McArthur for having, on the 14th ult., exposed margarine for sale without labelling the same. A second summons charged the defendant with selling to Police-constable McArthur 1 lb. of margarine containing a percentage of 97·5 of fats other than butter. The offences were admitted, and a fine of £1 and costs were inflicted in each case.

At Ashby-de-la-Zouch Petty Sessions on December 8th, Thomas Hart, milkseller, Whitwick, was summoned for selling milk with 10 per cent. of added water to Superintendent Holloway at Whitwick on November 11th. Defendant was too ill to attend, but his son, who represented him, said it would be well to have the case settled at once. Superintendent Holloway said he saw defendant's son selling milk from a large can in the street. Witness asked him for a pint of new milk, and paid 2d. for it. Hart said it was not his milk, but that he was selling it for his father. The analyst's report showed that the milk contained 10 per cent. of added water. Defendant's son said that his father was a "poor creature," and left the work to a youth who may have put the milk in wet cans. Fined a guinea, and 10s. 6d. costs.

John White, milkseller, Thringstone, was summoned for selling milk having 12 per cent. of added water on November 11th. His wife appeared. Superintendent Holloway said he saw defendant and his wife delivering milk in cans. He asked for a pint, which Mrs. White supplied in the presence of her husband. He sent one portion to Dr. Dyer, of London, and received a certificate stating that there was 12 per cent. of added water. Defendant's wife said she had purchased milk because her cows were going dry. Fined 25s. and 10s. 6d. costs.

James Beniston, licensed victualler, of Whitwick, was summoned for selling gin 41½ degrees under proof to Superintendent Holloway on November 13th. Defendant's wife said that she did not understand the dilution of the gin, as her husband did it. She ran short of gin and did it herself. Fined 21s. and costs.

At Alfreton Petty Sessions on December 7th, John Bell, Queen's Head Inn, Riddings, was charged with having sold rum under the strength required by law.—Mr. John White, public analyst, attended, and said the rum consisted of 83 parts rum and 17 water, which showed that 2d. was paid for water. Fined 20s. and costs. —Thomas Slater, Rifle Volunteer Inn, Birchwood, was charged with a similar offence. The analyst's report showed that the article contained 96 parts rum and 4 water, being 23·3 under proof. To pay the costs, 18s. 6d.

Alleged watering of butter. At St. Helens, on December 7th, before Mr. T. Glover, Mr. Dromgoole, and Mr. G. W. Rawlins, a small shopkeeper named Thomas Newcombe, of 2, Charles-street, was summoned for selling to Inspector Steel one pound of butter which Dr. Robertson, public analyst, certified contained at least 3·67 of added water. Mr. Mearns, who defended, elicited from the inspector that he did not know of any Government standard for butter so far as water was concerned. He should not be surprised to hear that it was a practice to pour water over butter to keep it good in certain seasons. He took a lot of samples, but did not know much about the keeping of it. He had visited large establishments as well as small shops. This was the first case of the kind. Mr. Mearns submitted that no offence had been committed, and he could quote cases to support his contention. The magistrates, without hearing anything further dismissed the case.

At Highgate Petty Sessions, Walter James Lloyd, of High-street, Hornsey, was summoned by Arthur Liddon Bridge, a food inspector for the County of Middlesex, for having sold margarine without its being properly labelled as such, and on another summons for having exposed for sale margarine not properly labelled, the full penalty in each case being £20.—The Bench imposed a penalty of 40s. and costs in each case.

At Liverpool on December 3rd, Isaac R. Williamson, grocer, of West Derby-road, was summoned for selling adulterated coffee. The wife of a police officer went to the defendant's shop and asked for half a pound of "1s. 4d. coffee." When the coffee was analysed it was found to contain 25 per cent. of chicory. The paper in which it was wrapped was labelled "mixture of coffee and chicory."—A fine of 1s. was ordered to be paid together with costs including the analyst's fee.

At Ringwood Petty Sessions, Joseph George Sampson, of Ringwood, grocer, was charged with selling cocoa on October 7th last which Police-sergeant George David White proved contained at least 50 per cent. of sugar and starch. Fined 1s. and £1 9s. 3d. costs.

At the Bromley Police Court last week, William Lastlett, landlord of the Bull Inn, St. Paul's Cray, was summoned by Inspector Tucker for selling half a pint of gin which was adulterated contrary to the statute, on November 2nd. Mr. L. W. Gregory appeared for the defendant, who pleaded guilty. Inspector Tucker said that on the day in question his assistant, William Carr, purchased from defendant's daughter half a pint of gin. Afterwards witness went in and divided the gin into three parts, one of which was given to defendant and another was sent to the county analyst, who sent back a certificate (produced) stating that the gin was adulterated with 2·51 of added water. For the defence, Mr. Gregory said that five different samples had been taken, and only on this the last occasion had there been found anything wrong with them. The cause of the complaint was through defendant being away from home, and his daughter mixing some gin in his absence. The amount was so small that he asked that the lowest possible fine be inflicted. After some deliberation the Bench imposed a fine of 6d., with 8s. costs, and 10s. 6d. the analyst's fee.

At Worcester Police-court on December 10th, John Hatton, Salisbury-road, Handsworth, Birmingham, was charged with selling adulterated butter in the Shambles, Worcester, on November 21st, also with selling margarine without a properly-labelled wrapper. The town clerk (Mr. S. Southall) prosecuted on behalf of the city authorities, and Mr. Dreaper defended. The town clerk said that the case was an exceptionally bad one, inasmuch as the defendant was trading as the North of England Butter Company, and supplied a number of small dealers in the town. On the date in question the sanitary inspector sent Mrs. Archer to the shop of the defendant to purchase the butter. She asked for a pound of butter, and the assistant cut her some from the butter marked "Fine English butter." Part of it was sent to the public analyst, who found it to be adulterated with foreign fats to the extent of 50 per cent., and it should have been described as margarine. Evidence having been given in support of this, Mr. Dreaper said the prosecution had not proved that the defendant was the proprietor of the business; he was merely a travelling inspector under the company. Defendant was called, and denied that he was the manager. He was pressed by the town clerk to disclose the names of the members of the firm, but the magistrates intimated that they were satisfied that the defendant was responsible. The magistrates considered that the case of selling adulterated butter had been proved. The other charge was withdrawn, as was also a charge against the assistant, Oliver West. A fine of £10 and £2 3s. 6d. expenses was imposed.

In a vinegar prosecution at Dukinfield on November 29th, in which Mr. Ivill, grocer, was the defendant, it transpired that the vinegar was supplied by Mr. William Henry Waterhouse, chemist and druggist, Goye-street, Dukinfield, and the public analyst certified that it was not a sample of malt vinegar, but a mixture of acetic acid and water which had been coloured. Mr. Waterhouse gave evidence, and stated that the vinegar supplied by him to defendant was in all respects as good as, and in many respects superior to, vinegar sometimes sold under the name of malt vinegar. The nature and substance of true vinegar was acetic acid and water. No vinegar could exist or be made which did not consist of those two ingredients. It was superior to the vinegar resulting from the fermentation of malt liquors. He did not dispute the finding of the analyst. The vinegar was composed of pure acetic acid, water, and extract of malt, but was not distilled. For table use or for pickling purposes it was far superior to malt vinegar. The Bench convicted, but stated that acetic acid was not injurious to health, therefore no damage was done to society by selling it. But defendant was charged with selling it as malt vinegar, and he was fined 5s. and costs.—Another tradesman, named Wilde, who also sold vinegar made by Mr. Waterhouse, was fined 5s. and costs for a similar offence.

#### SEIZURE OF BAD FISH AT CARMARTHEN.

ON December 4th, by order of the medical officer of health for Carmarthen (Mr. W. Lewis Hughes), nine boxes containing "fresh" herrings were seized by the authorities at Carmarthen, it being considered that the fish were unfit for human food. The boxes, which were valued at £4 10s. each, had come from Hull and were consigned to persons at Laugharne.



### TUBERCULOSIS IN AMERICAN CATTLE.

THE result of the quarantine of cattle at Brighton and Watertown, New England's greatest beef centres, put in force last week, is the condemnation or holding for future tuberculosis tests of 16 per cent. of the live stock that would have been offered for sale.

### IMPORTANT OLIVE OIL PROSECUTION.

AT Worship-street on December 8th, Messrs. Walton, Hassell, and Co., oilman, etc., with numerous shops in various parts of London, were summoned by the vestry of St. Leonard, Shoreditch, for having sold in two instances at their shops in St. John's-road, Hoxton, and Kingsland-road, a certain drug, *i.e.*, olive oil, which was not of the nature, substance, and quality demanded. Mr. Robinson, vestry clerk, prosecuted, and a solicitor whose name was not given defended. The purchases at the respective shops were proved by a sanitary inspector and his agent, employed by the vestry, and the analyst's certificate handed in showed that the article sold in response to a request for "olive oil" was adulterated with vegetable oils to the extent of 50 per cent. Mr. Bryett, M.D., medical officer of Shoreditch parish, was called to show that as a drug olive oil was entered in the British Pharmacopœia, and that the substitution of vegetable oils would be wholly opposed to medical intention. The witness was cross-examined as to whether the vegetable oils referred to might not be nut oil. He could not say, but was positive nut oil of any character would not be a permissible substitute for olive oil. It being suggested that the adulterating article was cotton-seed oil, the defence denied it. The article known as salad oil should be olive oil. The defence suggested that the article was what was commonly sold as salad oil, but admitted that olive oil being asked for, there was no answer to the charge when a different article was supplied. Mr. Henry Joseph Hassell, one of the defendants, said the firm has seventy shops in London, with a manager for each. The article "nut-oil" was perfectly pure, and cost £38 and £40 per ton. He invoiced it from the firm's warehouse to the shop managers as "salad" oil. That was done because the public asked for salad oil, and "olive" oil was an unknown article. Cross-examined as to why, if nut oil was a pure article, it contained 50 per cent. of olive oil, the witness said the statement was untrue, and the analysis incorrect—there was no olive oil at all in the article. He denied that the article was cotton-seed oil, but admitted that cotton-seed oil was largely used, and frequently was one of the "foreign fats" to be found worked up into butter. The defendants were ordered to pay a £10 fine in respect of the first summons, and £5 fine in respect of the second.

### SUPPRESSING BUTTER ADULTERATION AT RICKMANSWORTH.

GEORGE ASHBY, of Rickmansworth, was summoned for unlawfully selling to the prejudice of W. G. Rushworth, a certain article not of the nature, substance, and quality of the article demanded, and further for delivering to a purchaser a certain quantity of margarine in a paper wrapper on which was not printed in capital letters, not less than a quarter of an inch square, "Margarine," on November 16th.—Defendant pleaded guilty to both charges.—Inspector W. G. Rushworth said he sent to defendant's shop for a pound of butter, with which he was served. It was analysed and found to contain 25 per cent. of butter and 75 per cent. of margarine. The margarine was not served in a paper as required by the Margarine Act, and when he called defendant's attention to it, he acknowledged that he had put it in the wrong paper.—By the Chairman: The butter was selling at 1s. a pound. Margarine was selling the same day at 6d.—The Chairman said that defendant was making a very large profit out of people who could ill afford it. Taking into consideration that defendant's business was not a large one, the fine would not be so large as it otherwise would have been. He would be fined 10s. and £1 10s. costs in the first case, and 10s. and 7s. 6d. costs in the second case.

William Gristwood, of Rickmansworth, provision dealer, was summoned on two similar charges, at Rickmansworth, on November 14th, and pleaded guilty.—Mr. W. G. Rushworth stated that he paid one shilling for the pound of butter and discovered a ticket enclosed which entitled him to crockery ware to the value of 2d. He took the butter to the shop, saying that he should have it analysed, and Mrs. Gristwood said first that it was butterine, and then admitted that it was margarine, and showed him the place where it came from.—There was 80 per cent. of margarine and 20 per cent. of butter.—Defendant said that his wife was not in the habit of attending to the shop. He sold the article at 10d. a pound for margarine.—Fined £2 7s. 6d. inclusive.

Kate Abbott, of Rickmansworth, was summoned for selling to the prejudice of Mr. W. G. Rushworth, an article of food containing 80 per cent. of margarine and 20 per cent. of butter, and further summoned in respect of the wrapper delivered not having margarine printed on it, on November 16th.—Defendant pleaded guilty to both charges.—Inspector W. G. Rushworth said that the case was very similar to the others. He had previously cautioned the defendant.—The Chairman said that this case was quite as bad as the others, but owing to the defendant's circumstances the fine would not be so heavy.—Fined £1 6s. 6d., inclusive.

### GLUCOSE AS A FOOD.

THE following is the report made by Dr. Cyrus Edson, in reply to a communication from Hon. Thomas F. Gilroy, Mayor of New York City, relative to glucose as an article of diet:—

I have the honour to acknowledge your communication relative to the wholesomeness of glucose as an article of food. This question is best answered in a report made by the committee appointed by the National Academy of Science at the request of the United States Commissioner of Internal Revenue, in 1882. This committee consisted of Professors Charles F. Chandler, G. F. Barker, W. M. Brewer, Wolcott Gibbs, and Ira Remsen. These eminent scientists made an exhaustive investigation of the subject. Based upon their researches, they arrived at the following conclusion:

"That starch sugar is in no way inferior to cane sugar in healthfulness, there being no evidence before the committee that maize starch sugar (glucose), either in its normal condition or fermented, has any deleterious effect upon the system, even if taken in large quantities."

This opinion is so sound and so well founded that the light of science of to-day, twelve years later, has only served to show its wisdom more clearly. I understand it has been alleged that glucose or starch sugar is liable to cause diabetes. This is not true, and is based upon a mistaken knowledge both of glucose and the disease diabetes. In addition to certain nervous varieties, due solely to disturbed nerve functions, diabetes is divided by the best authorities into two classes, of which the one is due to excessive sugar-formation in the blood, and the other to diseased digestion which prevents sugar from entering the circulation in the condition to be utilised by the system. The first of these classes is caused by disease of the liver; the second by disease of the pancreas. The latter form is by far the most dangerous and rapidly fatal. The former variety, on the other hand, may last many years. In neither of these varieties can the ingestion of glucose under any circumstances be considered a cause of the disease, and I know of no authority who attributes to glucose such an effect.

It is true that in the liver variety of diabetes glucose does harm, but so also does starch or sugar in any form. Starch cannot be used by the human system until after the digestive organs convert or change it into glucose, consequently if glucose is condemned as causing diabetes, potatoes and other starchy foods must also be condemned, for they must become glucose before they can be assimilated. To eat potatoes is to consume glucose; to eat bread is to consume glucose. Honey is but another form of glucose. Glucose is the basis of a multitude of infant foods. Malt is practically but another form of glucose. A health officer who condemns glucose cannot consistently fail to condemn bread, potatoes, malt, honey, and most of the infant foods now on the market. This is a *reductio ad absurdum*.

In the form of diabetes due to disease of the pancreas the highest authorities advise the administration of glucose for the amelioration of the disease. Kulz, an eminent German physician, recommends a starch sugar called *lævulose*, which is the exact analogue of diabetical glucose (*International Medical Annual*, 1894, page 178). An excessive amount of glucose or cane sugar or of starchy foods taken into the system may, of course, appear in the urine; so also may an excessive amount of albuminous food; but these phenomena are physiological and not disease.

Glucose may justly be called pre-digested starch, since, as I have said, it is starch in the exact condition that we find it prepared by the digestive organs for assimilation. Glucose is pre-eminently a fat-forming, heat-producing food. Under a diet of glucose a man can perform more muscular work than under any other single article of food. Glucose not only is not injurious, but it is an essential article of food, without which in some form man cannot enjoy life.

Chemistry has shown man how to imitate exactly the products of nature. The honey of the flower and numerous other products of Nature's laboratory can not only be imitated by man, but exactly reproduced by him, through the agency of chemistry. It seems a pity that we should, instead of welcoming such glorious results of science, receive them with distrust and suspicion.

### ADULTERATED OATMEAL.

AN interesting case under the Food and Drugs Act, 1875, came before the Heanor Bench on December 10th. Messrs. Smith and Son, proprietors of the Langley Mill corn and flour mills, were summoned by Mr. H. S. Sandys, inspector of weights and measures for the county of Derby, for having sold to him on October 26th 11b. of oatmeal which was not of the nature and substance of pure oatmeal.—Mr. F. Searby, solicitor, Ilkeston, appeared on behalf of the authorities to prosecute, and Mr. H. Hardwick Smith represented the firm.—Mr. Searby said the proceedings were taken under the 6th section of the Act.—Mr. Smith said they did not admit that they sold the oatmeal as pure oatmeal for human food, but as cattle food.—Captain Sandys stated that he went to the establishment of Messrs. Smith and Son and asked for a pound of meal for the purpose of analysis. He was supplied, and afterwards he saw Mr. H. H. Smith. The meal purchased by him for 2½d. was divided into two parts and placed in bags, one sample being submitted the following day to Mr. J. White, F.I.C., the county analyst, whose certificate showed that it contained 3 per cent. of maize.—Mr. White proved the correctness of the certificate, and said in pure meal there would be no maize.—Mr. Smith contended that the case did not come



under the Food and Drugs Act, as they sold only wholesale to retailers. They did not sell the meal as food for man, but only for horses and cattle, and he strongly objected to the manner in which Captain Sandys had obtained the sample, inasmuch as the man who might have supplied it was not acquainted with the article. Had Captain Sandys gone direct to the office he would have been supplied in a formal manner, but instead he saw a man named Justice, and afterwards a man named Leavesley. The latter had no right in the room, and could not know which was the proper meal to supply.—Henry Justice corroborated Mr. Smith. This witness had charge of the room where the meal was kept, but was attending to another customer at the time Captain Sandys came. Witness had never seen the man Leavesley in that department for many months past.—Mr. Smith contended that they had no motive in the case, and if any Indian corn was mixed it would be accidentally done or put in for the purpose of assisting grinding. He further contended that seeds of different kinds could not possibly be all got out, even in flour.—The Bench decided to overrule the objection raised.—Mr. Smith stated that they received a guarantee with the article as being pure from a firm at Derby.—The Bench held that it was a case for conviction, and while they could not go into the matter of accidental mixture, they were bound to act on the analyst's certificate which showed that the oatmeal was not pure. The public ought to be protected. They did not believe it had been done with any intention to defraud.—A fine of 20s. and costs was inflicted.—Messrs. Reuben Holmes and Son, provision merchants, etc., Hleanor, were also summoned by Captain Sandys for a similar offence at Hleanor on October 19th.—Robert Tomlinson proved purchasing 1lb. of oatmeal from the defendants' shop and handing it to Mr. Francis A. Shot, assistant inspector. A sample upon being analysed revealed 3 per cent. of added maize.—Mr. John Holmes, jun., admitted the purchase, but stated that the meal was bought from the defendants in the last case.—Mr. H. H. Smith said they had always guaranteed the article to defendant as being pure.—Captain Sandys remarked that he did not wish to press the case, as defendants were not to blame, and the summons would be withdrawn on payment of costs 23s. 6d.—William Abbott, Waingroves, was also charged by Captain Sandys with a similar offence, on September 27th.—The evidence being identical with that in the last case, defendant was ordered to pay 23s. 6d. costs.

## THE SELECT COMMITTEE ON ADULTERATION.

### CONTINUATION OF MR. C. MIDDLETON'S EVIDENCE.

#### XXIV.

(Continued from page 392.)

ARE you aware that they know what they are getting?—I will not say that there may not be a case of one or two institutions that do it. In that case I would prohibit it altogether. They could buy the whole milk and separated milk and mix it at home.—I am entirely at one with you as to not selling separated milk as ordinary milk; but do not you think it would be possible that if a certain standard of fatty solids was taken and the milk was sold in proportion to the fatty solids present in the milk you might have a first-class milk which would be the ordinary unskimmed milk which might be sold as first-class milk, and then people who wished to buy cheaper milk might say that they would be prepared to give a less price if the fatty solids were present in a less degree, and so on, down to ordinary separated milk; would you have any objection to that if it was known to the purchaser what he was buying?—I think if that was allowed it would tend to increase the practice of adulteration instead of checking it, as we want to do.—But if the purchaser were aware of what is going on would you have any objection?—I would rather that he should mix it himself. I would prevent the admixture altogether, with a view to prevent adulteration. I think it better not to allow the mixture to be sold as a mixture.—But if the seller was under a penalty if he did not sell up to the amount of fatty solids that he guaranteed, and the purchaser knew what he was buying, what objection would you have to that?—I think it is complicating the case and making it easier for adulteration to be carried on.—Mr. Jeffreys: With regard to what Mr. Gardner asked you, would it not be almost impossible to have this graduated scale unless you have an analyst attached to every shop that sold this milk?—It seems to me to be almost unworkable.—Apart from that it is a very ordinary practice, is it not, with the dairies selling nothing but Guernsey milk to get a higher price than when they sell shorthorn milk?—In my own case I get a higher price, and the dairyman who sells the milk gets an extra penny a quart for it.—With regard to the amount of solids in milk, you have told us that your cows in March gave solids 11·96 per cent.: that was with very high feeding?—Yes, with the feeding which I have described?—Supposing that those cows had been fed on brewers' grains, and such like things, instead of the long hay and decorticated cake, of course the milk would have been of a much lower standard?—The effect of the change of food had less difference on the quality of the milk than I expected, because previous to this from time to time the chemist at the dairy which receives this milk had week by week taken samples, and we found that it was not coming up to the recognised standard, and I have made several changes in my feeding with a view to increasing it,

but I have been able to make very little difference by any change that I could make in the food.—Then your cows must have been very good, I imagine. But take the case of a small man who could not afford to feed with that long hay that you described and 2½lbs. of decorticated cake. If he were to feed instead with brewers' grains and such like things his standard of milk would be very much lower than yours?—It would be lower.—Then you would not prosecute that man for selling that milk, would you?—If an appeal was allowed to the cows, and the cows found to be improperly fed, I cannot say that I would allow that to be a good defence. I should say that it is a form of adulteration. But I thought you said just now that if it could be proved that the milk, however low the standard, came direct from the cow, in that case you would not prosecute?—I intended to imply from cows fairly fed and in fair condition. I do not say that in the case of cows exceptionally badly fed or exceptionally poor that defence should be valid altogether.—Then that would add another difficulty, would it not; because if it was proved that the milk was poor and yet came from the cow, you would have to call in evidence to show whether the cow was properly fed or not?—There are cases where cows are fed so that their milk should not be allowed to be sold as it is. That wants checking.—Mr. Herbert Gardner: It might be mixed with richer milk of other cows, so as to bring it up at the last moment?—Yes.—Mr. Jeffreys: It would be rather hard upon a man not to let him sell milk at all because he has not a cow with rich milk, would it not?—It is only in the case of extremely bad feeding or poverty, where that defence should not be a valid one.—You did not tell us, I think, what you thought ought to be the milk standard?—It depends to a certain extent as to what protection will be given. If the protection that I ask for should be allowed, say an appeal to the cow or any system of putting in as proof the composition of the mornings' and afternoons' milk, I should go for a higher standard than I would do without those safeguards.—Mr. Frye: You are in favour of making the standard higher rather than lower?—As high as you can do safely. Am I to say what standard I recommend?—Yes?—Sir Walter Foster: Yes?—With the safeguard that I suggest. I would recommend a standard of 3 for fat and 8·50 for solids not fat.—Mr. Whiteley: With an appeal to the cow?—Yes. Without that standard I should only allow 2·75 for fat and 8·50 for other solids.—Sir Mark Stewart: What are the total solids?—In the one case 11·25, and in the other case 11·50 per cent.; with an appeal 11·50; without an appeal 11·25.—Mr. Herbert Gardner: The same standard all the year round?—It would be difficult to fix a standard for different periods, because in different parts of England the months in which cattle are out at grass, of course, vary very much.—Mr. Jeffreys: I think you said that the shops where milk is sold ought to be registered?—Yes.—Would there not be some difficulty in registering shops merely for the sale of milk as compared with other articles?—I suppose that there are different trades for which you can make special regulations; and a great deal of milk is sold from shops that it should not be sold from, and where I should like to stop the sale.—Do not you think there would be rather a practical difficulty in this way; that if you precluded certain shops from selling anything but milk, on the other hand you would have to extend that and preclude other shops from selling anything but meat?—I do not ask that; I only ask that any shop that sells milk should be registered, not exclusively as a milk-selling shop, but as milk being sold from that shop.—Have you ever considered whether the condensed milk which is brought over here and mixed with skim milk is sold as fresh milk?—I have reason to believe that it is done; I have no facts within my own knowledge.—Do you know whether skim milk, for instance, is coloured and sold as fresh milk?—I believe that it is done.—To any large extent?—I believe to a large extent, in London especially.—And you think that if there were more inspectors that ought to be obviated?—I do not know that it would be necessary to have more inspectors, but there ought to be more inspection and more samples taken than there are.—I thought you said that one thing which you advocated was more inspectors and travelling inspectors to test the milk?—There should be travelling inspectors who should go down to localities where the local inspectors are not doing their duty, and be sent to any place where it was found necessary to have more inspection.—Are you acquainted with the adulteration of cream?—I have no facts to give you as to that.—You do not know about the cream that is sold in London?—I have no evidence to give on that point.—With regard to margarine, you were asked the question as to whether if it were not allowed to be mixed with butter it would not increase the price to the poor people; what you meant, I think, was that this mixture was sold at a very much higher price than it ought to be?—It is sold as butter, and at the price of butter very often. If it were sold as margarine it would be sold at a lower price than it is actually sold at now.—If a pound of butter costs 1s. and a pound of margarine 4d., the mixture should be sold at 4d.—I would not allow of mixture; I would sell the butter at 1s. a pound and the margarine at 4d., whereas probably they are both being sold at 10d. They are getting 1s. 8d. for the two pounds, whereas it would only realise 8d.—Then you would advocate what we have been told is the practice in Denmark; that is to say, that the people buy the margarine and butter separately and mix it themselves; it should not be allowed to be mixed in the shop in your opinion?—Unless it is sold as margarine. I would not allow any mixture to be sold as any other than margarine; I think there are blended butters sold as such.—Are you acquainted at all with the composition of the butter that comes from Normandy



and Brittany?—I believe a great deal of it is mixed with margarine.—You have got no particular evidence as to that? I have no actual facts to bear that out.—Mr. Channing: I should like to ask you this: when you took the average of the morning and evening milk of the 11 Guernsey cows, what period of the year was it?—March 29th.—And you have not tested them again in July?—No.—Can you form any impression as to whether they would have improved in the same ratio as the other set of cows did?—I have every reason to think that they had, judging by the appearance of the milk if it stands.—So that you would think that their figures, if they were analysed now, would probably come out better than even this analysis that you have given us?—I think they would have risen in the same proportion as the milk of the other cows.—Did I correctly understand you to say that the fair standard in your opinion of total solids would be 11·25 per cent. without appeal to the cow, and 11·50 per cent. with an appeal to the cow?—I think 11·25 per cent. would be as far as it would be safe to go without an appeal to the cow.—About this appeal to the cow, do you think that in practice there would not be a great many opportunities for fraud upon the part of the owner of the cow?—I do not think it would be possible, because the appeal would have to take place so soon after the other milking that any change which he could have made in the food would not make any difference in the few days.—Mr. Frye: He might change the cow?—In the case of a single cow he might, but in the case of a number of cows he could not.—Mr. Channing: That would be a question arising rather between the farmer and the wholesale milk dealer in London, would it not?—It could only arise in a case where the farmer is summoned.—It would be impossible to have an appeal to the cow as to London milk, would it not, in the case of a prosecution for London milk?—The farmer would not mind about an appeal to the cow if he was not the man prosecuted. If it was the dairyman who was prosecuted it would not matter to the farmer.—What was the method of analysis that was used for these cows of yours?—They were done by a practical chemist, the man who is retained by the company who takes my milk, for the sole purpose of making analyses of the milk. He is a specialist, and he does nothing else but make analyses of milk.—He is the chemist of the company to whom you supplied the milk?—Yes. I may say that from time to time his analyses have been checked by another chemist, not these actual samples I am speaking of, but I know that samples have been sent to another chemist, and they always have been borne out; his analysis has been correct in every case.—You put the standard at 3 per cent. for fatty solids, and 8·50 per cent. for non-fatty solids?—That is if an appeal to the cow is allowed.—In your opinion is that a standard sufficient to prevent adulteration of separated milk to a large extent?—I think that milk of that composition is a fair, good commercial milk; it is a milk of good quality if it reaches that standard.—You think that a standard lower than 3 per cent. would be insufficient to prevent adulteration up to the standard, whatever it may be, by separated milk?—I think milk ought to have 3 per cent. of fat; good, genuine milk should have 3 per cent. of fat.—The use of a standard of 2·5 per cent. would be insufficient, you think, with the cows with which you are acquainted, to protect the customer from the introduction of separated milk?—In most cases it would allow of the abstraction of cream or the addition of skim milk.—Have you any evidence to give about a question which has frequently been raised, namely, whether there is any adulteration by the addition of water or otherwise, to milk in transit?—I have no actual evidence to give as to that; it is quite possible that milk is sometimes tampered with in transit, but I have no facts that I can give you.—As a matter of fact the churns are sent up by the main lines of railway not sealed, are they not?—The railway companies insist that they shall be sent unfastened. I may say that I have been trying to devise some means by which the churns might be fastened, and at the same time to let the railway company ascertain the quantity of milk in them. I believe that the reason why they insist that they shall be unfastened is that they may verify the quantities sent. Their contention is that they are defrauded, that they have been carrying a great many more gallons of milk than the farmer has paid for; that is why they insist that they shall not be fastened. I have been endeavouring to see if I could not work out a churn fastened and at the same time showing the quantity of milk that it contains.—Mr. Herbert Gardner: About taking the samples either at the station at which the churns are sent, or at the station of arrival, have you anything to say about that?—For the farmer's protection I should say that a sample should be taken where he makes the delivery of the milk, at the station where he puts it on rail. It is out of his hands, and he has no control over it after it leaves his own cart; and his responsibility ought to end when he puts it on rail or delivers it at the station.—Mr. Channing: A question was asked you about the use of colouring matter in milk. Would you prohibit that in order to prevent adulteration?—I think it is desirable that it should be prohibited.—Do you think it practicable to prohibit it?—I think it might be; I know it is done to a large extent. I think it might be prohibited.—Mr. Herbert Gardner: And for butter too; would you prohibit colouring matter in the case of butter?—I am scarcely prepared to go so far as that.—Mr. Channing: You object to colouring matter in margarine, but you do not object to it in butter?—No, because in the case of margarine it enables margarine to be sold for butter; in the case of butter it has no such effect, it does not add to the richness; it is entirely a matter of appearance.—Mr. Herbert Gardner: The inviting nature of the substance?—Yes.—

Mr. Channing: As a matter of fact, colouring matter is introduced sometimes into thin, poor milk to produce the appearance of rich milk, is it not?—Yes, I know it is done.—With regard to this ration that you have given us, do you consider that, as a practical man, the best ration to produce the maximum of fat, or would you substitute another ration if you wanted to produce a higher percentage of fat?—My object is to produce a large yield of milk of the required quality.—This ration then, I take it from looking at it hastily, is not meant especially to produce an abnormal and more than usual quantity of fat in milk, but is an average ration for well-managed cows?—I say it is more than the average ration; there are very few cows fed with such a ration; it is really higher than is generally given.—I mean that chemically it is not specially directed to the production of fat as against other solids?—No. At the same time I may say I made some change in it with the view of raising the fat, and it had very little effect.—What change was that?—I substituted 2½ lb. of pea meal for maize extract meal.—Have you used linseed cake at all?—Not very much; I do not find that it is suitable food for dairy cows.—Now about margarine; all mixtures of margarine are by the Act compelled to be sold as margarine; but, as a matter of fact, is it the case that the margarine sent to the retailers is not invoiced as margarine?—I could not say what it is invoiced to retailers as; but in many cases it is sold by retailers not as margarine.—Your opinion is that it is impossible to deal with margarine frauds without travelling inspectors, I suppose; that is to say, inspectors who would go round and take samples freely?—And especially at the port of landing. All butter and margarine imported should be inspected and tested freely; all imported butter should be sampled and tested.—Mr. Yerburch: I want to ask you one or two questions on the matter of margarine. In answer to Mr. Jeffreys, when he put the question to you as to whether you were opposed to any admixture of butter with margarine, I did not quite understand whether you were in favour of prohibiting any admixture?—My reply was as to the admixture of any margarine with butter.—What I want to know is whether you think it would be advisable, in view of preventing the sale of margarine as butter, to prohibit the admixture of butter with margarine beyond the amount that is used for the necessary working?—I said beyond that minimum.—Then upon the question of packages in which margarine is consigned, under the Act letters of a certain size are obliged to be placed on such packages?—Yes.—A witness at our last meeting suggested that those letters should be increased in size; that would, of course, be with a view of attracting the attention of the public to the fact that margarine was being sold in those packages. I want to ask you whether you think that the end in view would be better secured if the margarine was consigned in vessels of a special character?—I think the cases in which margarine comes in are generally of a different shape from those that butter is imported in.—We were told by one witness that a manufacturer of margarine had offered to supply margarine, to send it over here (I think it was a foreign manufacturer) in vessels of any shape that his customer might like; what I want to get at is, whether you think it would assist us in preventing the sale of margarine as butter if margarine had to be sent over in special vessels?—I think that everything which made it more distinctive would tend to prevent its being substituted for butter.—Do you think it would assist us further if such vessels had to be coloured with a certain colour; I do not know whether it is the law, but that suggestion was made by responsible authorities in Russia?—Every means which makes it more distinctive would undoubtedly help to carry out the end in view.—Then if, in addition to vessels being of a special configuration and a special colour, any packages in which margarine were sent, in addition to being lettered, or in place of it, were coloured red so as to attract the eye, would that be advisable?—It might be effective; I am not prepared to go so far as to say that it would be advisable.—Do you think that anything that is effective is advisable?—To a certain extent. Of course adding colouring matter to margarine would be effective but it is not advisable.—Mr. Colston: I do not know whether I got your figures right with regard to the difference of the quality of milk in summer and winter, but it would appear that the milk from your cows is a good deal richer in summer than in winter. Is that your usual experience?—I believe the last spring months milk is always poorest. During the autumn and the early winter months, I should say that the milk is quite as rich as in summer; and in autumn I am certain that it is. It is only in the late spring months when I believe milk always loses quality; it is almost impossible then to keep it up to the average standard.—If you take milk in the depth of winter you would expect it to be as rich as or richer than in summer?—Yes, I think it would be.—Colonel Bagot: Did I correctly understand you to say that the price of margarine as it is now is rather above what it would be supposing that it came in in its perfectly natural state?—I think that if all margarine were sold as margarine the price would then be reduced.—The price of butter do you mean?—The price of good butter would be increased.—My point was that if the margarine had to be sold not by law but with the practical knowledge of the buyer as margarine owing to its colour, then you think it would be cheaper than it is now?—I think it would be.—Could you say what the present average price of margarine is?—I cannot say; I do not know what price it is. Of course there are various qualities and various prices.

(To be continued.)



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## Food and Sanitation.

SATURDAY, DECEMBER 22ND, 1894.

### THE CONSUMPTION OF AMERICAN FOOD IN ENGLAND.

THE annual report of Secretary J. Sterling Morton of the U. S. Department of Agriculture, which has just been submitted, treats first of foreign markets for American farm products. England is looked upon as the best customer, with the imports of this year much larger than the year before, but not up to the average, due to restrictions imposed by law. Mr. Morton says:—

"Large proportions of the meat thus taken into England are sold in the retail markets of London, Liverpool, and other cities as "prime Scotch" or "English beef." Under that classification the butcher demands and secures a better price than he could with the meat known and sold as Canadian or American. This method is a splendid indorsement of the quality of American beef. . . . The trade in live cattle between the two countries has been of the greatest advantage to the British people. During the six months of the year from March to September, when their cattle are fattening on the pastures, American steers are arriving in large quantities and of superior condition and flavour. Long ago it would have been generally admitted in England that American beef is superior, from March to September every year, to English beef produced during those six months, except for a certain national prejudice which is common to all countries.

"If the American cattle are killed at home, properly dressed, and sent to Europe in a state of refrigeration, the cost of American beef will be reduced in all those markets. By killing at home and shipping only the dressed carcasses, bulk is compacted, value is enhanced, and the cost of transportation is reduced, so that the poor, who heretofore have bought offal, may be able to buy good meat instead.

"This trade in dressed beef is almost entirely in the hands of American citizens. Their principal competitors are found in Australasia. The question whether more profit remains to the producer from shipping live beef cattle or carcasses to European markets is one which requires thorough investigation. At the present writing it is deemed probable that more advantage and profit will result to the American farmer from the shipment of dressed beef than from the exportation of live cattle.

"European Governments are constantly declaring live animals from the United States diseased. These declarations are sometimes made for fear of infection of their own herds, and at other times it is believed for economic reasons. If all American beef going abroad is shipped in carcasses, and it is all stamped "inspected" as wholesome and edible, by authority of the Government of the United States, it certainly cannot be shut out afterward on account of alleged Texas fever, pleuro-pneumonia, tuberculosis, or any other disease. But if certain European nations continue to demand legally authorised microscopic inspection of American pork, and require also veterinary inspection for beef, with Government certification to each, then why ought not the Government of the United States demand that all imports from foreign countries for human consumption—either edibles or beverages—must likewise be certificated by the authorities of those foreign Governments as wholesome and unadulterated before they are permitted to be sold in the United States.

"Besides consuming such a vast proportion of the beef exported from the United States, the United Kingdom of Great Britain is likewise a voracious customer for American bacon, hams, and lard. Between 20 and 25 per cent. of the flesh food of the people of the United Kingdom consists of hog products. About 13 per cent. of these hog products come from other countries, and 14 per cent. of the live cattle and dressed beef and mutton is also imported. Our trade with Great Britain in hog products shows an increase of nearly 45,000,000 pounds this year. This, however, does not restore to us the position we occupied prior to the year 1893 as principal purveyor to Great Britain. Nor do the values make as good a showing as they should, for, notwithstanding the increase in quantity, there is a shrinkage in value of half a million dollars."

Mr. Morton finds the cause of this decrease in an English home supply of frozen meats in the competition of Denmark, which studies English tastes, and in the lack of attention in the United States to meet English tastes and demand, which are for mildly cured, not over-salted, and very lean bacon. While in the past year the price of the best Irish bacon has fallen off about half a dollar per cwt., and there has also been a slight decrease in the price of Danish and Canadian bacon, United States side meats have declined more than 8s. per cwt., Cumberland cuts being reduced by 12s., and short ribs about the same amount.

From a recapitulation of the figures of the report, Mr. Morton makes this statement:—

"This recapitulation shows that the United Kingdom paid to American producers during that year for breadstuffs, provisions, cotton, and tobacco more than \$324,000,000. That is to say, the British market bought more than one-half of all the farm exports of the United States during that year. A study of the world's markets demonstrates the fact to the producers of meat and breadstuffs in the United States that the United Kingdom of Great Britain furnished the largest demand for their commodities."

### VINEGAR PROSECUTIONS. EXTRAORDINARY STATEMENTS.

WILLIAM MEACHEM, of 50, Three Colt-street, Limehouse, was summoned, at the instance of the Limehouse District Board of Works, on December 13th, for selling vinegar deficient in acetic acid to the extent of 40 per cent. Mr.



Young prosecuted, and the case having been proved, it was contended on behalf of the defendant that there was no process by which vinegar made of a certain strength could be altered and made commercially profitable. Mr. Young, in reply to the magistrate, said the acetic acid could be extracted either by the addition of water or by evaporation. Mr. Dickinson could not understand the charge. Mr. Baldy, who defended, said a good deal of the vinegar was made in Germany. The magistrate asked if there was anyone present who could point out the difference between vinegar and acetic acid. His own impression was that there were different kinds of vinegar. A gentleman, who was an analyst, said that vinegar was a form of acetic acid. Ordinary vinegar was made by acetic acid and coloured water. It was made from distillation and fermentation, and it was possible by dilution to get less acetic acid in vinegar. Abstraction was only possible by an elaborate chemical process. Mr. Dickinson adjourned the case for a week.

At the Bradford Borough Police-court, on December 13th, Harriet Clough, grocer, of 53, Mildred-street, Bradford, was summoned at the instance of the Bradford Corporation for having sold malt vinegar which was not of the nature and quality demanded. The Town Clerk (Mr. W. T. McGowen) prosecuted, and stated that the inspector under the Food and Drugs Act had visited the defendant's shop, and had obtained samples in the usual way and submitted them to the analyst. Inspector William Cordingley having proved the purchase of a pint of vinegar, which he had asked for as malt vinegar, Mr. F. M. Rimmington, the borough analyst, was put into the box, and stated that he had examined the sample submitted to him, and found it to consist of over 95 per cent. of water, a little over 4 per cent. of acetic acid, and some colouring matter. He stated that, whereas the acetic acid in vinegar should be the result of the fermentation of alcohol, the acid in this instance was a chemical product, probably produced by the destructive distillation of wood. In answer to Mr. Neill, who appeared for the defendant, the witness said he could not state positively that the acid had been produced in the way which he had suggested, but he was sure that it had not been produced by fermentation. On behalf of the defendant, Mr. Neill contended that there was no such thing as pure malt vinegar, and that this was only a trade name. He submitted that Mr. Rimmington's certificate was not admissible, because the actual manipulation of the analysis had been carried out by an assistant; that the invoice from the person who had sold the goods to his client gave the retailer a guarantee by describing the vinegar as pure malt vinegar; and that no fraud or deceit had been practised on the customer. He quoted the opinion of the editor of the "British Pharmacopœie" to show that in actual practice such a thing as malt vinegar was non-existent. Mr. Skidmore said he was aware that there had been several decisions upon this point recently, and he would look them up and give his decision a week hence.

### SIR WILFRID LAWSON AND WHISKEY ADULTERATION.

WE would be the last to deny the unselfish earnest work Sir Wilfrid Lawson has done for his fellow-men its full meed of praise, but his earnestness in the cause of temperance does not justify action as a magistrate that is a direct incentive to fraud upon consumers of spirituous liquors. Our own opinion is, that with distillers and brewers enjoying their present enormous advantages for public plunder, alcoholic beverages, with the exception of a few special makes, are unhealthy on account of their vile character and the materials used in substitution of malt; but an objection to the liquor habit, or the trash sold, is very different from encouraging the sale of water at whiskey price. This latter is roguery pure and simple, and any magistrate encouraging it in the case of whiskey offers inducements to adulterators of other articles, such

as milk, for instance, where adulteration becomes very dangerous to public health.

On December 11th, at Wigton Police-court, Jane Hayton, landlady of the Cross Keys Inn, Wigton, was summoned for retailing whiskey reduced 10·5 degrees below the legal limit. Mr. A. J. Livesey, in defence, said he must admit that the defendant had put a little too much water into the whiskey; she thought it was no good sending a lot of newly-hired servants home drunk. Sir Wilfrid Lawson: It was done in the interests of temperance? Yes. Defendant was fined 1s. and costs.

The Adulteration Acts require sensible and impartial administration, and we must confess that it surprises us to see even so ardent a teetotaler as Sir Wilfrid Lawson inflicting so ridiculous a fine as the above.

### THE EXPENSE OF ADULTERATION APPEALS.

THE prosecution for mustard adulteration reported in another column proves how difficult it is for local authorities to do their duty to the public under the existing Food and Drugs Acts.

The case upon the face of it appears as clear as it could possibly be. A young man was sent by Deputy Chief-constable Jones to purchase a quarter of a pound of "pure" mustard, but the case was dismissed because, although "pure" mustard was asked for, the tin contained a label stating the contents to be a condiment. The justices found that pure mustard was demanded, and granted a case. The prosecution of an appeal against the decision of the Bench came before the Local Government Committee of the Glamorgan County Council on the 13th inst., when the question of the expense of an appeal was considered, and it was decided to abandon the case inasmuch as the existing law is so uncertain, and the county spent last year £2,000 in expenses under the Acts. Deputy Chief-constable Jones was, however, instructed to make a special reference to the case before the Select Committee of the House of Commons. It is clearly in the interests of manufacturers and of the public that the label question should be thoroughly considered, and that the Select Committee should make very clear recommendations on the question in order that manufacturers and local authorities should know exactly how they stand.

### PARAFFIN FOR CHEWING GUM AND WHITE WAX PLUS PARAFFIN WAX IN DERBYSHIRE.

At the Chesterfield County Police-court, on December 15th, before Mr. E. W. Barnes (in the chair), Mr. S. Burkitt, and Mr. A. G. Barnes, Thomas Henry Bradley, chemist, of Whittington Moor, was summoned on a charge of selling, to the prejudice of Col. Shortt, inspector under the Foods and Drugs Act, white wax which contained 50 per cent. of paraffin wax, and was not of the nature, substance, and quality demanded. Colonel Shortt stated that he visited the defendant's shop on November 15th, and purchased 1s. worth of white wax. He divided it in the usual way, and sent one portion to the public analyst, who certified that the sample contained 50 per cent. of paraffin wax. The defendant produced a letter from a firm where the article was purchased, which stated that it had been the universal custom until quite recently to sell this composite wax as white wax. The Chairman said it was clearly shown that defendant in selling the article had no intention to defraud. Colonel Shortt said he did not impute any such motive. The Chairman said no serious offence had been committed. There was a technical point raised, and they decided not to convict.—Amos Smith, shopkeeper, of Whittington, was summoned on a charge of selling chewing gum which contained 35 per cent. of paraffin wax and was not of the nature demanded. Colonel Shortt said he had been requested to take proceedings in this case, as children purchased the article for chewing, and it was injurious to their health.



Mr. White, analyst, proved that paraffin wax had been added to pure gum, and it was highly injurious to health. Defendant produced a sample of the wax, which was labelled "Not to be eaten." The Chairman said it was evident the article was not sold for food, and under the circumstances the Bench could not convict. On the application of Colonel Shortt, the Bench agreed to state a case.

#### ADULTERATED CHEESE IN GLASGOW.

At Glasgow Sheriff Summary Court, on December 12th, Sheriff Birnie imposed fines of 30s. upon three provision merchants, John Hair, 54, Rosemount-street; John Macarthur, 12, George-street; and James Chaplin, 77, Eglinton-street, for having, on November 8th, sold to sanitary inspectors cheese containing respectively 19, 21, and 15·54 per cent. of fatty matter not derived from milk. In the first-mentioned case the cheese was sold at 6d. per lb., and in the other at 4d. per lb.

#### ADULTERATED WHITE WAX.

At the Edmonton Petty Sessions on December 13th, Stephen Bately, chemist and druggist, of 682, High-road, Tottenham, was fined £1 and £2 12s. costs for selling as white wax an article adulterated with 85 per cent. of paraffin. Mr. Beale, solicitor, appeared to prosecute, and Mr. Avery defended. From the evidence it appeared that on November 5th the inspector of the Middlesex County Council purchased at the defendant's shop sixpennyworth of white wax, which on analysis was proved to contain 85 per cent. of paraffin. It was stated that white wax was used as a medicine in the making up of pills, and should be pure bleached beeswax. When pure it cost about 3s. a pound, whereas paraffin-wax could be purchased at 8d. For the defence it was contended that the wax was not sold as pure.

#### CAITHNESS APPOINTS AN ANALYST.

DR. McLEAN, at a recent meeting of the Caithness District Committee, said he considered that the whiskey sold at Georgemas should be analysed. Mr. Brown thought it no laughing matter as an analyst was required to enable them to obtain unadulterated food, as well as for the protection of farm servants. Mr. Bruce took the same view, and pointed out that an analyst could be got for a retaining fee of £2 and 10s. for each analysis, and said that there was need for the milk sold being analysed, and he moved that Dr. John Hunter be appointed at a retaining fee of £2. This was agreed to.

#### A CAPTAIN AND HIS MEAT.

At the Guildhall, London, before Mr. Alderman Davies, Captain George William Hutton Riddle, Brayborough Hall, Rugby, was summoned for sending to the Central Meat Market four pieces of beef, the same being diseased and totally unfit for human food. Mr. Vickery, who prosecuted on behalf of the Commissioners of Sewers, said in November last the defendant had a heifer slaughtered. It was in such a condition that it could not walk to the butcher's, and had to be killed in the stable. The carcase was dressed and sent to London with a note that if it was not fit for food, it was not to be offered for sale. Evidence of the seizure of the meat having been given, Dr. W. Sedgwick Saunders, medical officer of health for the City, said the animal had evidently suffered from a lung disease. The meat was in a very bad state, and only weighed half what it should. Defendant stated that he left the meat in the hands of the butcher to do as he liked. The Alderman observed that this was a bad case. The defendant knew the carcase was not fit for food, and therefore should have taken care that it was never sent to market. He fined him the full penalty of £20, and £3 3s. costs, or a month. The money was paid.

#### IMPORTANT TO ANALYSTS.

At Shrewsbury Police-court, on December 11th, Sarah Lane was summoned for selling milk diluted with 14 per cent. of water. The town clerk (Mr. H. C. Clarke) appeared to prosecute on behalf of the Sanitary Authority, and Mr. C. Payne defended. The inspector under the Food and Drugs Act (Police-constable Binnall) deposed to buying a pint of milk from the defendant, a third part of which he sent to the borough analyst, Dr. Bostock Hill, Birmingham. He had since received by post Dr. Hill's certificate, which showed that the milk contained 14 per cent. of added water. Mr. Payne submitted that the certificate was worthless, as it did not contain the name of the person who sent the milk for analysis, as was required by the Act. There was nothing in the certificate to identify the sample analysed with that received by Binnall. Mr. Clarke replied that the sample was sent in a registered parcel, and the certificate was addressed to Police-constable Binnall, who bought the milk and laid the information. Mr. Payne said the Act distinctly stated that the certificate should give "the name of the person who delivered the sample." The clerk advised the magistrates that the certificate was sufficient, and the magistrates fined the defendant 20s. and costs. Mr. Payne asked for a case on the point he had raised, which the magistrates granted.

#### REFUSING TO SELL FOR ANALYSIS.

At Tetbury Petty Session, on December 12th, Robert Holborow, grocer, of Tetbury, was summoned by Inspector Hopkins, under the Food and Drugs Act, for "refusing to sell sugar for the purpose of having it analysed." P.-c. Wakefield deposed that he went to the defendant's shop, and, among other things, he asked for a pound of Demerara sugar. After being served, Mr. Holborow, who served him, said he had made a mistake, and given him "coloured crystal" sugar instead of Demerara. He said he should take what he had purchased as Demerara, and no other. Mr. Holborow, wanted to retain the "coloured crystal," and to supply the officer with real Demerara, but the latter refused. After hearing the case, and what Mr. Smith, of Gloucester, had to say for the defendant, the Bench dismissed the case, as they were satisfied there was no fraudulent intention.

#### BEER DODGES.

##### HOW THE PUBLIC ARE SWINDLED.

THOMAS ALFRED WHITE, of the "Londesborough Arms," Brompton-road, Stoke Newington, was summoned before Mr. Bros, at the North London Police-court, on Wednesday, for diluting beer. Mr. Hawkins prosecuted for the Inland Revenue, and Mr. Bordman defended, and said he acted in ignorance. There was a common idea amongst publicans that they were not liable to be proceeded against if they did not exceed two gallons of water to the 36 gallon cask. Mr. Hawkins replied that he never heard of it. Mr. Bordman: I got a summons dismissed on similar grounds in South London last week. Mr. Hawkins: We have had at least a dozen summonses during the past few weeks against publicans who have not exceeded two gallons of water to the 36 of beer. Mr. Bros: It is a fraud upon the consumer as well as upon the Inland Revenue. A man does not go into a public-house to purchase beer and water. Mr. Bordman suggested that the magistrate should dismiss this summons now that the defendant had been told his error; and the magisterial intimation that it was a common error to suppose that two gallons of water could be added to the 36 of beer would, no doubt, have its effect upon the publicans. Mr. Bros replied that he had no doubt the great majority of the publicans knew very well the law regulating their trade, and fined the defendant £5.

#### ADULTERATION IN GLASGOW.

At Glasgow, on December 12th, before Sheriff Birnie, Robert Gibson, 115, Drygate, pleaded not guilty to a charge of having on October 4th sold to Sanitary Inspectors Murray and Kerr, a pennyworth of sweet milk which Dr. Clark certified on analysis to be deficient in fat to the extent of 7 per cent. Mr. John Lindsay, assistant clerk of police, prosecuted; and Mr. J. Lumsden Oatts, writer, defended. In the course of the evidence for the prosecution, Dr. Clark stated, in reply to Mr. Oatts, that prior to two years ago, when the Somerset House standard of milk was altered, he would, after analysing this sample, have reported to the authorities that it was too fine a case for prosecution. The wholesale dairyman who supplied the milk said that it was guaranteed to him by the farmers, and this was the first prosecution against him or any of his customers. The respondent stated that he was a tradesman, and his wife took charge of the shop, where groceries and provisions were sold as well as milk. Mrs. Gibson stated that on the morning in question she got two pints of sweet milk, three pints of skim milk, and half a pint of cream from the wholesale dairyman, and put them into separate and clean dishes. The sweet milk was almost all sold when the inspectors called, and she supplied it exactly as she received it. The Sheriff, in finding the charge proved, suggested that as the wholesale dairyman got guarantees from farmers, he should also give them to his customers. He imposed a fine of £5.

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## PROSECUTION CASES.

THOMAS HART, milk-seller, Whitwick, was charged at Burton, on December 11th, with selling milk containing 10 per cent. of added water, on November 11th. Superintendent Holloway proved the purchase and analysis of the milk in question, and a fine of 21s. with costs (£1 11s. 6d. in all), or seven days, was inflicted.—John White, milk-seller, Thringstone, was charged with selling milk containing 12 per cent. of added water on November 11th. Superintendent Holloway proved the facts, and a fine of 25s. with costs was imposed.

At the Bradford West Riding Court, on December 13th, John Thornton, grocer, 6, Victoria-road, Eccleshill, was summoned for selling tincture of rhubarb which was not of the quality required by the Food and Drugs Act. Mr. A. Quinlan, County Council inspector for the Shipley district, prosecuted, and Mr. Neill defended. Mr. Quinlan deposed to having purchased some tincture of rhubarb from the defendant. He had since sent it to the public analyst, who certified that it was composed of 3.42 parts of extractive matter, 41.46 parts of alcohol, and 55.12 parts of water. There was only two-thirds of the amount of extractive matter usually found in tincture of good quality, and there was a deficiency in alcoholic strength. In addition, there was a complete or almost complete absence of saffron, which was required to be present according to the British Pharmacopœia. In answer to Mr. Neill, Mr. Quinlan admitted that some of the deficiencies might have arisen from the fact that the tincture had been in stock for a long time. The defendant was ordered to pay the costs.

Benjamin Moore, Market Harborough, was fined £2 at Market Harborough, on December 7th, for selling milk which was adulterated with 15 per cent. of water.

Daniel Slade, Southam, was summoned at Southam, on December 7th, by Mr. G. H. Salmon, inspector under the Food and Drugs Act, for selling adulterated whiskey to him at Southam, on October 24th. Mr. Salmon submitted Dr. Bostock Hill's certificate of analysis, which showed that the whiskey was 36 degrees under proof. Defendant was fined 5s. and 16s. costs.

Andrew McConnel, James McInally, Helen Devlin, Edward Slaven, William Struthers, and James Christie, all grocers, were charged at Glasgow with having exposed margarine for sale without the necessary labels. They all pleaded guilty, and were each fined 30s. including expenses, or five days' imprisonment. Alexander McAllister, grocer, 190, Gallowgate, was charged with selling margarine as butter. He pleaded guilty, and was fined £4 10s. including expenses.

At Fleetwood Petty Sessions, Ann Ralph, Fleetwood, was fined 10s. and costs for selling coffee containing chicory to Superintendent Cross for the best coffee. The analysis showed it to contain 60 per cent. of chicory. Defendant said she bought it for coffee, and for anything she knew it was the best coffee. The chairman remarked that she was selling stuff that only cost 5d. per pound for 1s. 8d. Her remedy was against those who supplied her.

At Liverpool County Magistrates' Court on Saturday, December 15th, George Massey, milk dealer, of Liverpool, was fined 10s. and costs for having sold at Tuebrook a pint of new milk which had been deprived of one-fourth of its cream, and slightly watered.—James Dinsdale, milk dealer, of Liverpool, who did not answer the summons, was fined 40s. and costs for having sold adulterated milk. Three parts of water had been added to every 100 parts of the poorest milk.

At Malling Petty Sessions, William Barrows, landlord of the Fleur de Lys, was summoned for selling adulterated gin at Burnham, on November 3rd.

P.-c. Hubbard proved purchasing a pint of gin at the defendant's house and paying two shillings for it. Cross-examined: He did not see a notice in the bar "All spirits are adulterated." He told the defendant he wanted the gin to submit to Dr. Adams, the public analyst. Superintendent Lane deposed to going with the last witness to purchase the gin. Witness divided the gin

into three parts, and left one with the defendant. Another part he submitted to the analyst, and the third he kept himself. Dr. Adams' certificate showed that the gin was adulterated to the extent of 47.84 underproof, which was 12 degrees below the legal limit. Cross-examined: He did not see the notice in the bar. He did not actually buy the gin. Hubbard paid for it. Mr. Tatham, for the defence, did not dispute the analysis, but submitted that his client was entitled to an acquittal on two grounds. First, that a notice was hung up in the bar to the effect that all spirits were adulterated; and secondly, that inasmuch as the constable bought the gin he ought to have divided it into three parts, and not the superintendent; and therefore the proper formalities had not been performed. This latter point had been upheld in a court of appeal. Mr. Monckton: Then suppose there was a notice in the bar, the gin was twelve degrees below the limit? Mr. Tatham: The gin was not more than under half-proof. Mr. Tatham then called the defendant, who swore that there was a notice in the bar that all spirits were adulterated. As the superintendent and the constable could not swear that there was not a notice in the bar, the Bench dismissed the case on the first point raised by Mr. Tatham. The Chairman said they were doubtful whether Mr. Tatham's second point would hold good, but he had no doubt they would have an opportunity of going into it at some future date.

Edward Bonner was summoned for committing an offence under the Margarine Act on November 3rd, at East Malling. Superintendent Lane said he went to the defendant's shop and asked for some butter, pointing to some behind the counter, when the defendant said "That is only margarine." There was no label on it, nor had it got margarine on the paper. He wrapped it up as required by the Act. Defendant pleaded guilty, and said he had acted in pure ignorance. Ordered to pay the costs, 8s.

Richard Simmonds, for a similar offence at West Malling, was also ordered to pay the costs of the proceedings, 8s.

## CONDENSED MILK PROSECUTION.

At Thames Police-court, on December 14th, Walter Reeve of 152, Old Church-road, Whitechapel, was summoned, at the instance of the Poplar Board of Works, for selling condensed milk which was unfit for human food. Mr. Muir, counsel for the prosecution, said 43 tins of milk were seized, when being sold in the streets at 1½d. per tin. Mr. Bedford, for the defence, maintained that his client bought "mixed" goods, and that the bad ones were not sold. Mr. Dickinson said he found the offence proved. Mr. George F. Hearn, representing Messrs. Cleeve Bros., 69 and 70, Mark-lane, was next summoned for selling the tinned milk to Reeves. The latter said he purchased five cases from Messrs. Cleeve Bros., and there were no labels on the tins. When he went to Mark-lane he saw Mr. Hearn. One day 2,000 or 3,000 labels concerning tinned milk, but with no manufacturer's brands, were left at his house. By Mr. Elliott, barrister, who defended: He knew he was purchasing damaged goods, but he did not know they were unfit for human food. Some of the milk he sold for manufacturing purposes and some for pigs' food. Mr. Dunn, sanitary inspector, proved that the milk was sour. All the tins were convex at both ends, and were condemned by the magistrate. Some of the tins had the "Princess" and "Forget-me-not" brands labelled on them. Mr. Young, analyst, said sour milk was largely used for making confectionery and bread, but it ought to be free from metallic impurities. Mr. Dickinson adjourned the cases.

## MUSTARD ADULTERATION—IMPORTANT DECISION.

At the Pontypridd Police-court, on December 12th, before Mr. Ignatius Williams (stipendiary), Mr. T. P. Jenkins, Dr. H. Naunton Davies, and Mr. Wm. Williams, a small shop-keeper at Pwllgwaun, Pontypridd, named Isaac Penker, was summoned for having sold to P.-c. W. Evans, as pure mustard, a penny tin of mustard which, upon analysis, was found to be a condiment

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composed of 85 per cent. genuine mustard and 15 per cent. of flour and turmeric. Superintendent Evan Jones, deputy chief-constable, prosecuted, while Mr. Louis Tillett, of Norwich, appeared for the defence. For the prosecution it was alleged that when the purchase was made pure mustard was distinctly asked for, and that defendant's wife admitted that she sold the penny tins as pure mustard in the same condition as it was received by them. The defendant, however, distinctly denied that the word "pure" was ever used by the constable, and that it was only used by Superintendent Jones when he came into the shop after the purchase was completed. Mr. Tillett argued that a great deal more was involved in the case than the mere value of the penny tin of mustard, for should the prosecution succeed it would mean the harassing of traders in that district in a way that they certainly should not be. He argued that pure mustard was not asked for, and, even if it was, that the printed notice on the label stating the quality of the contents of the tin was an absolute protection, and further, that there was no fraud, and that the article was not sold to the prejudice of the purchaser. It was a matter of common knowledge that there were two kinds of mustard, the genuine and the condiment, and it was entirely a matter of public taste which had the larger sale. The Messrs. Colman manufactured both kinds, and both were sold at precisely the same prices. Most persons objected to the pure mustard as being too high, too stingy. The learned advocate cited a large number of cases in support of his contentions. Superintendent Jones replied that not a single case had been quoted in which the pure article had been demanded. When pure articles were demanded purchasers should be supplied with them, otherwise there would be no protection to the public. He asked the Bench to say that this was the law. The Stipendiary, in giving judgment, said that the decisions quoted, and which were binding upon that court, were so strong that they imposed upon the purchaser the duty where there was a label, and in the absence of any fraud, of abiding by the label, which constituted the contract between the parties. There had been a long current of decisions which practically meant this, that where things were sold with a label, and where there was no fraud, the label was binding between the parties. The summons would, therefore, be dismissed, though the Bench would readily grant a case should a demand be made. Mr. John E. Backhouse, Penarth, the representative of the Messrs. Colman, was present in court during the hearing of the case.—A similar charge was brought against John Phillips, grocer, Pwllgwawn, Pontypridd. In this case the mustard contained 35 per cent. of flour, and the defendant's wife admitted to the prosecutor that she knew that pure mustard was demanded. A fine of £2 was inflicted.

### DUNDEE MILK.

THE city analyst's quarterly report was submitted to a meeting of the Sanitary Committee of the Dundee Town Council on December 11th. A large number of samples of milk were analysed and found in every case to be genuine.

### ADULTERATION IN ARBROATH.

AT a meeting of the Police Commission, on December 10th, Provost Keith presiding, Mr. G. D. Macdougald, analyst for the burgh, reported as to his analysis of 11 samples of milk drawn and forwarded to him by Mr. McNeil, sanitary inspector. The analysis show that two of the samples were "high-class," one was "slightly low in fat," one "low in fat," four were "very low in fat," and three were passed without comment.

### MILK ADULTERATION IN MONTROSE.

MR. WILSON, sanitary inspector for the burgh, reported to a meeting of Police Commission, on December 10th, that during the year 84 samples of milk had been analysed. The lowest percentage of fat in any sample was 3.6 and the highest 3.74, and the average of the 84 samples was 3.22 per cent. Mr. Wilson added that 3 per cent. was considered to be fairly good quality. Last year the average of fat was 3.13 per cent. The chairman said it was satisfactory to see that there had been a slight improvement.

### VIN MARIANI.

THOSE who are responsible, says the *Philadelphia Medical News*, for the desirable prosecution of offenders against the laws as to the adulteration of foods, should be extremely cautious not to make mistakes in selecting the articles against which to proceed. Against proprietary preparations, as such, owned or manufactured by non-medical men, there can be no criticism; indeed, medicine is indebted to non-medical chemists and honourable manufacturers for many preparations that have been of great service in therapeutics. It would be a pity if the justifiable intolerance of the nostrum-traffic should proceed to such lengths as to include useful non-secret preparations made by respectable manufacturers. To make a mistake in choosing articles against which to proceed (as, for example, the Ohio Pure Food Commission did in the case of "Vin Mariani," etc.), weakens the power of the prosecutors and creates a prejudice against their judgment. There are plenty of certainly and really adulterated articles, and plenty of secret preparations and nostrums against which action can be taken with benefit to public health.

## FOOD COLOURS AND FOOD PRESERVATIVES.

By HENRY LEFFMAN, A.M., M.D.

To discuss this important topic in all its bearings would require a volume. I wish to present here only some facts as regards the present methods and the possible sanitary results. The artificial colouring of food has been practised for a long period, and it is probable that in much earlier times, when the effect of mineral colours were almost unknown, and the supervision of the composition of food far less developed than at present, the damage done to health by the reckless use of colours was very great. The constant attacks made by the sanitary authorities on the use of mineral substances in food have tended to decrease the use of them, and it is comparatively rarely that we find arsenic, copper, or lead colours in food. Among the substances long used and commonly regarded as harmless are the vegetable colours, indigo, turmeric, annatto, and logwood, and the animal colour, cochineal. While there is but little positive physiologic or clinic evidence to show that the continued use of these bodies in small amounts is harmless, yet it seems to be generally held that they may be employed, provided the object is not to conceal inferiority or adulteration. Thus, there is little opposition to the colouring of candy with cochineal, since everyone knows that red candy must be coloured with something, but there is objection to the imitation of wine colour by adding cochineal to diluted alcohol, since the purpose is to deceive as to nature of the article.

Almost all the old methods have, however, been overthrown by the remarkable progress in the production of artificial colours, whose name is legion, for they are many.

Of these colours it may be said that, fortunately, they appear to be without appreciable toxic qualities, except, perhaps, in large and repeated doses. Their distinct character, especially their high tinctorial power, precludes the possibility of their being taken by mistake, and they are not likely to have cumulative power. An incidental danger from their use arises from the presence of poisonous mineral matters, either accidentally introduced in the manufacture or purposely added in order to enhance the brilliancy or permanence of the article. Thus, fuchsins often contains distinct amounts of arsenic, and I have found appreciable traces of copper in every sample of Bismarck brown I have tested. Some colours are sold in definite combination with zinc chloride. All such mineral matter will have injurious action, and it is important that anyone who uses colours in food should ascertain the freedom from such impurities. Some confectioners do this, but many use what the dealers offer, without any thought of the effects. We owe to Theodore Weyl, of Berlin, our most exact knowledge of the effects of long-continued use of the coal-tar colours, and his results indicate that a few colours, notably some of the yellows, are poisonous. It must be borne in mind, however, that, except as to some almost negative experiences in manufacturing establishments, all information as to the toxic action of these bodies is drawn from experiments on lower animals, and there is uncertainty in carrying inferences from these to the human system.

I have alluded above to the practice of using colours to conceal the nature or quality of goods, and in this phase, of course, the wholesomeness of the colour is but a part of the question. Whether hurtful or not, the sanitary authorities ought to be empowered to prohibit such uses. Among the foods largely coloured with a view to enhance their saleability, are milk and milk products. The community at large tends to regard a rich yellow tint as evidence of good quality in these articles, and dealers are not slow to take advantage of such opinions. A colour long used by dairymen and milk purveyors is annatto. I think the consensus of opinion is that this is not injurious. It is said that some specimens of annatto are prepared with fermented urine, but this is doubtful, and there are certainly brands which are free from this taint. It is a vegetable colour of considerable tinctorial power. Associated with turmeric it is now found in several prepared "butter," "milk," and "cheese" colours. The solution is usually obtained by the use of some fixed oil (cotton-seed or olive), or if it be desired to have a watery solution, by the use of sodium carbonate. The oily liquids are added especially for use with butter and cheese, the watery solutions are suitable for milk as well. I have experimented with about half a dozen of the commercial preparations. The mixture of colours employed renders the analyses uncertain, but it is evident that, as noted above, annatto and turmeric are the favourite ingredients. Methy orange is, however, also used. The following formulæ give a good idea of the nature of these preparations:—

(1) Annatto seed, bruised	...	...	...	...	10
Turmeric	...	...	...	...	3
Ammonium carbonate	...	...	...	...	1
Cotton-seed oil	...	...	...	...	75
Lard	...	...	...	...	10
(2) Extract of annatto	...	...	...	...	10 oz.
Turmeric	...	...	...	...	5 "
Logwood chips	...	...	...	...	2½ "
Cotton-seed oil	...	...	...	...	1 gal.

The detection of annatto colour in milk is easy. The sample is mixed with a little baking soda and a piece of unsized paper partly immersed and allowed to remain for a few hours. The immersed part becomes tinted orange. For the detection of methyl orange or other coal-tar colours in milk, clean undyed wool should be used, the sample being previously mixed with a little ammonia.



A solution of caramel is used as a milk colour. Its detection is difficult.

Concerning food preservatives, we find almost as great a lack of facts as with colours. We have not so large a list to consider, because, although many preservative bodies are known, some are too costly or too characteristic in colour, taste, or smell, and others are so well known as dangerous that the most unscrupulous persons would not use them. Among the preservatives which are available for addition to food, we find common salt, potassium nitrate (nitre), various sulphites, salicylic acid, benzoic acid, sodium benzoate, boric acid, borax, and baking soda. Salt and nitre are used for meats, but it will not be necessary to discuss them here. Salicylic acid and borax have been of late years widely used, especially for fermentable articles, such as beer, milk, and preserved fruits. Sodium benzoate has also a fair use. These articles are sold under various names, such as "preservative," "conservative," "rex magnus," which give no clue to the nature of the body. I examined lately a series of five of these preparations put up by the same firm. A preservative for cider was found to be salicylic acid; a preservative for meat and milk was found to be borax. Another sample contained salt and baking soda. The preparations were highly recommended as harmless and efficient, and sold, of course, at higher prices than they could be obtained for under their proper names. I know from conversation with dairymen that a milk preservative consisting of borax is largely used to keep milk without the aid of ice.

When the question of propriety of the use of those articles is discussed, the sanitary chemist is easily put on the defensive by the question: "Do you know wherein these bodies are harmful?" It must be confessed that he has only limited data available for reply. It is known that some of these bodies interfere with digestion. Salicylic acid, for instance, prevents the digestion of starch, but boric acid does not seem to do this. It was long shown that borax interferes somewhat with peptic digestion, but this is probably by neutralising the acid of the gastric juice. Nevertheless, we must decide, I think, against the general use of food preservatives, for the following reasons:—

We have no knowledge as to the effect of the long-continued use of small doses, and it is an unwarrantable assumption that, because we have not observed harm, it does not occur.

Processes of digestion are allied to processes of decomposition, in so far that the latter are frequently preceded by transformation under the influence of ferments. We may infer, therefore, that whatever prevents putrefaction must, at least, delay digestion. This, as noted above, has been actually shown with regard to some preservatives.

In many forms of food the use of preservatives will encourage negligence in the processes of manufacture, or permit the use of inferior or slightly decomposed materials.

The methods of preservation are not wholly understood, and there is a great temptation to use a large amount of the preservative to ensure success.

As long as the sale of such articles, under proprietary names, continues, there is no guarantee as to what may be used. A dealer may to-day sell salicylic acid under the title "anti-spoil," and to-morrow may substitute some even more dangerous body, if it be cheaper and, at least, equally efficient.

It seems, then, that the use of these preservatives in food should be disallowed. At any rate, those using them should be obliged to indicate on the package the amount and nature of the material used, and it would also be in the interest of public policy that proprietary or copyright privileges should be withheld from all manufactures which are intended for secretly modifying foods.—*The Dietetic and Hygienic Gazette.*

## THE SELECT COMMITTEE ON ADULTERATION. CONTINUATION OF MR. C. MIDDLETON'S EVIDENCE.

XXV.

(Continued from page 400.)

THEREFORE, if your supposition with regard to the prices of butter and margarine is correct, supposing margarine to be sold uncoloured and clearly as margarine, although certain people who use butter would perhaps suffer by having to pay a little more for their butter, the poorer classes would rather gain by getting cheap butter?—I think they would.—Mr. Yerburgh asked you just now whether you did not think that if the cases that margarine came in from abroad (by that I suppose he meant the large cases) were coloured red it would be rather a good thing, and I think you answered that you were not quite prepared to recommend that?—I do not wish to advocate anything which makes it difficult for a man to carry on his business.—That would add slightly to the expense of importing margarine, would it not?—To a small extent.—There was another point which he joined with that question, which has nothing to do with the large cases in which it comes from abroad, but would simply be that the package in which it is sold in the grocers' shops should be coloured so that the public could recognise it more easily than simply by printing. That would not add to the expense of margarine, would it?—Not appreciably.—Do you think that that would be a good thing?—I think that everything that would make it more distinctive must help the end in view.—Do you think that the particular colouring of the packages as well as the lettering should be brought about?—I think if the purchaser saw that colour, he would more readily know what it

was.—It would not add to the expenses of the trader in margarine?

—Not to any appreciable extent.—There are, I believe, many special articles which are sold in specially coloured papers, are there not, in grocers' shops?—I suppose there are.—You have no knowledge on that subject?—I could not give you any particular case at the present moment.—Might I ask you on the subject of the analyses of your cows that you gave at different times of the year; you found that cows at grass give a better analysis as a general rule than cows fed in the best possible way in winter time?—In the late spring months; not in the autumn and early winter months. The milk is quite as rich then as it is when the cows are fed in the summer months on grass. It is during the few spring months that it is not so good.—They are indoors in those months?—They are indoors from November to May.—Therefore you could not say that on the average milk produces a better average where the cows are at grass than in the winter months?—No; it is quite as high in winter as in summer on the average.—Was that your reason for saying that you did not think that a different standard should be adopted for summer and winter?—That is so. In the south of England the cows are several months more at grass than they are in the north.—But I suppose that an average could be taken if you think there is any difference between the summer and winter months?—I do not think that there is between the average of the six summer months and the six winter months.—As regards the figures which you gave us of the cows at grass and the cows indoors, do you consider the difference was owing to this being rather an extraordinarily good year for grass?—The pastures are of a better quality this year than they have been for many years.—Do you account for the great difference in your figures this year by that?—There will always be a difference to a certain extent; but there is a greater difference this year than in most years.—Can you tell us what you do with your skim milk; have you a regular market for it?—I do not sell it; I only sell whole milk.—What do you do with your separated milk; you sell butter, do you not?—No, I only sell milk.—What is done in your district with separated milk?—In my district the milk is all sold as milk.—Is there no skim milk?—No; the farmers in my district always sell their milk as whole milk.—But in a large district where butter is made, what is done with the skim milk?—As a rule it is kept at home and given to calves.—Not sold?—Not in my district. I know it is done in factories.—Near London, do not the big farmers sell their skim milk?—Most of them sell it as whole milk.—The factories, perhaps, sell that.—But the fact is that you have no knowledge of that?—Some of it I know is sold as skim milk, and in other cases I know it is sold and used to reduce whole milk.—There is a considerable demand for skim milk as such, is there not, not only in London but in country towns?—Yes.—Is it not the fact that workhouse children are almost invariably given skim milk?—Not in those that I know. In all the unions in the North of England that I have any knowledge of they have whole milk; they do not buy skim milk. I do not know of any union in the North of England that buys skim milk.—You do not know the Kendal Union then?—No, I do not.—I want to ask you about condensed milk. Have you any knowledge of the business in condensed milk?—No personal knowledge. I have no evidence to give on that point.—There is just one other question I want to ask you which has been asked several times, but I do not think that any very definite evidence has been given about it; that is, with regard to colouring milk. Have you any experience of the extent to which milk is coloured for the market?—I believe it is done largely in London more than anywhere else, because there is a demand in London for a higher coloured milk than is general in provincial towns.—Is it not the fact that very nearly all the milk sold in London is coloured?—I believe it is, and milk of good quality. The people in London seem to require a higher coloured milk than they do anywhere else.—And the colouring matter is not injurious.—No, it is not injurious.—Mr. Frye: What is it?—Anatto, I believe, is generally used.—Is there anything else that is used at all?—Not to my knowledge.—Mr. Colman: In your own neighbourhood is milk coloured for sale?—No; people in the North of England like milk to be of the natural colour. In London if they only get the natural colour they think it is not genuine milk.—Does that remark as to the North of England apply generally over the whole of the North of England?—I should say that it does, so far as I am aware.—Then in colouring milk for the London market is that done by the farmers at the time they milk the cows?—I believe it is done by the dealer when it comes into his hands.—Not by the farmer?—I think not. There may be cases where it is done by the farmer, but I think that as a rule it is done by the dealer.—You told us, I think, that butter from Normandy is sometimes mixed with margarine?—I have every reason to believe it is.—Have you any knowledge whether that has been done at all by English makers of butter?—Do you mean the Normandy butter mixed in England?—No, what has been purchased as pure English butter. Do you know of any cases where it has been mixed with margarine?—I have heard of its being done.—Recently?—Within the last two years.—I understand you to make a reply something of this kind, that people go and ask for milk at a price at which they should know that they cannot get unskimmed milk?—Yes, I think that was in reply to a question whether institutions did not sometimes buy a lower or a mixed milk.—Is it not within your knowledge that something of that sort occurs with reference to margarine or butter?—No; because I know that I have seen butter sold as genuine butter in summer in the market in the North of England at as low as 5d. a pound.—And the people who buy that, although according to



your theory they ought to know that it cannot be butter, go in and ask for it as butter?—But it is pure butter made by farmers and taken to market. I am speaking of butter in the summer months, when it is almost in a fluid state. That butter I have seen sold as low as 5d. You may be quite sure it is genuine butter, because margarine would not get into that state.—You advocate the inspection of margarine factories; what is the special object of that inspection?—One is to see that nothing but pure fats are used, that nothing unwholesome is used; and another reason is that most of these factories send out, not only margarine, but butter too.—Is it your object to watch and see whether they mix the article before they send it out?—It would not be so necessary to have such thorough inspection of the factories if the sale of margarine as butter is put an end to.—Do you think that there should be any inspection of large dairies where they are making butter?—I think it would be safer that they should be inspected where it is made in large quantities.—That they should be put in the same category?—Yes, upon the same footing; because I know, as a matter of fact, that there are factories with the names of butter factories, and so on, where they send out large quantities of margarine as well.—Sir Mark Stewart: I want to ask you on just one or two points in regard to the feeding of your cows. Do you not prefer bean meal either to decorticated cotton cake or pea meal?—No. I prefer decorticated cotton cake for cows, to any article of food.—You do not find that it makes the milk too strong?—No. I have used much larger quantities of decorticated cotton cake than I give in this ration.—You do not find that it is dangerous to the cows' health?—Within certain limits. I would not give more than four or five lbs.; beyond that it might be dangerous.—What is maize meal made of?—It is what is left after it comes from the corn-flour manufacturers; a good deal of the starch is taken out, and you get more of the germ; the albuminoids are higher.—You do not think that the feeding of which you told the Committee is too strong?—No, it is as high as I would recommend to go. I would not recommend going higher.—There is a great difference, of course, in cows' milk, whether they are young cows or old cows.—These are not old cows; they are cows from the third to the fifth calf, as a rule.—Is it not the fact that the older cows give poorer milk, although in larger quantities?—I seldom keep a cow after the fifth calf.—With reference to inspection, have you any views as to whether the Board of Agriculture or Somerset House ought to insist on more frequent inspections than at present take place?—I think it would be better perhaps if it were taken out of the hands of the Local Government Board and put into the hands of the Board of Agriculture. I think it would be better carried out.—Would that give farmers more confidence and satisfaction?—I think on the whole it would.—You do not see any real practical difficulty in making a standard for milk?—Practically there is a standard now.—But if you were to make a standard that you propose, 3 per cent. or 2.75 per cent., you do not think there would be any danger?—No; because the public analysts require it to be of that standard. Somerset House, perhaps, adopts a rather lower standard.—Do you think it would be an advantage to have one known standard for the whole of the country?—I want to have it as high as possible with a view of preventing the adulteration that now goes on so largely.—If you make a low standard of 2.75 per cent., the public would not get the benefit of richer milk unless they paid for it?—I only advocate the 2.75 per cent. in case no protection is given to farmers to meet the cases of exceptional milk.—But if it was 2.75 per cent. the public would get a greater proportion of milk naturally of a comparatively low standard, unless some special arrangement was made between the purchaser and the producer to have a higher standard, for which they would have to pay, in consequence, more money?—It would be very difficult to carry out, but it would be better if milk was sold by a scale of standard, but that would be almost unworkable.—Is there much separated milk sold in London?—A great deal.—As good milk?—Some is sold as separated milk, and a good deal is mixed with the other.—What sort of test do you use?—I do not make a test myself.—But have you any recommendation to make in testing milk, analysing milk?—No, I am not a specialist in that.—Privately do you use the Babcock tester?—I have not great faith in that. I would not convict in the Babcock system.—I suppose there is no systematic mode now of getting samples of butter; that is to say, there is no systematic plan adopted from Somerset House?—I do not think so, for samples of butter.—And analysing them?—I do not know that there is.—Nor milk either?—All chemists do not adopt the same method of analysis. It is desirable that there should be a uniform system of analysis.—But there is no uniform system at present?—No; and that always tends to variations between perhaps a local chemist and the chemist to the authority. The local chemist may adopt a different system from what is adopted at Somerset House.—Then, on the whole, do you think that the present system works out fairly well, each chemist having his own standard?—No; I think it is desirable that there should be one uniform system of analysis, to secure greater accuracy.—But you have no particular plan of your own in regard to a tester?—No.—Mr. Whiteley: You tell us that you are in favour of the prohibition of mixing butter and margarine altogether?—Yes.—And that the direct result of that would be that butter would be dearer, whereas margarine would be cheaper?—It would have a tendency to make butter of a higher price and margarine cheaper.—I suppose you are aware that there is a large mass of our population that cannot afford to buy butter at the present prices?—Then, what I am

advocating would enable them to get their margarine cheaper.—Therefore you would enact by Act of Parliament that everybody who cannot afford to buy butter must eat margarine?—No, I do not; there are a great many grades of butter; genuine butter, varying from 8d. to 1s. 4d. per pound, to suit different incomes.—But supposing that anybody cannot afford to pay 10d. or 1s. for butter, and cannot buy a mixture under your thesis, they are bound to buy margarine?—They can buy butter at the present time, genuine butter too, as low as 8d.—Generally speaking, I think they cannot buy butter as low as 8d.—In a good many markets in the North of England you can at the present time.—I am speaking generally, not locally. You would prohibit altogether the colouring of margarine?—Yes.—But you would not prohibit the colouring of butter?—No.—I suppose butter is coloured to suit the eye?—Yes, sometimes at this time of the year butter is not coloured; it is in winter and spring, when it gets paler, that it is coloured.—When it is coloured it is coloured to suit the eye?—Yes. In taste it is the same?—Yes.—Margarine is coloured likewise, I presume, to suit the eye?—And also to let it be sold for what it is not.—Therefore you would not let margarine be sold except in as unpalatable and unsightly a form as it can be, that is to say, pure white?—I think the manufacturers of pure butter have the right to demand that it shall be so.—Have you anything to say as to the sale of margarine in blocks of a certain size, in 1lb. and ½lb. blocks; are you in favour of that?—It would be better if it were sold in blocks of a uniform shape.—Would not the fact of its being made in those blocks cause it to be deteriorated more readily by exposure to air?—I do not think so, because butter is generally made up in blocks of 1lb. or ½lb.—But butter will not keep as long as margarine?—Some butter will.—Those people who were not able to purchase these butters and would have to go without, would you allow them to have half a block of margarine.—Yes, I would allow the blocks to be made in all shapes and sizes.—You advocate that butter and margarine should not be sold at the same shop, at the same counter?—Yes.—You would enact, therefore, by Act of Parliament that the fixings of a shop should be of a certain number?—I would not allow butter and margarine to be sold at the same counter.—Then they must have two counters at every shop at which margarine is sold?—If they want to have margarine and butter sold in the same shop.—All this, I suppose, as you have said once or twice, is in the interests of trade?—In the interests of the farmers in England, and to a certain extent in the interests of the consumer.—Are you aware that four-fifths of the butter consumed in England comes from abroad?—I could not give a precise figure, but I suppose that the proportion imported varies practically from month to month.—All these measures which you advocate, which would handicap the consumer and bonus the producer, would bonus four foreign producers of butter for one English producer?—What I am advocating would not handicap the consumer, because if the producer at home had the protection I am advocating he would be able to make larger quantities. It is the fact that he has to meet this competition and the low prices that it entails, which prevents him making butter at all.—If, as I have pointed out, there are four producers of butter in foreign parts for every one in England, foreign producers would be benefited four times as much as English producers?—It does not matter if we benefit our own producers at home.—Therefore, your evidence is that so long as you benefit your own home production, the consumer is not to be taken into consideration, nor is the fact that four-fifths of that extra amount paid will go into the foreign producers' pocket?—I say that what benefits the producer at home would to a certain extent benefit the consumer.—Are you aware that a large amount of milk is used in the production of this margarine?—A certain amount of milk is used.—And that margarine is produced to the greatest extent on the Continent?—The bulk of it is, undoubtedly, produced on the Continent.—Is there any importation of milk from the Continent?—There was a little. I do not know whether there is any actually at the present time.—Supposing the milk was not used in the manufacture of margarine on the Continent, would there not be a probability that we should have to suffer larger importations of milk into this country?—I do not think so. I do not anticipate that there will be ever any great influx of milk from the Continent; I do not think it would be allowed.—Is it not the fact that the fat of cattle has increased in price owing to the manufacture of butter substitutes?—My idea is that the price of fat cattle has gone down very much. It is lower than it ever was before.—Why do you say that?—The butcher I sell my cattle to says that one reason why he cannot give me a better price is the low price that he makes for the fat that he sells; and from time to time he has quoted me figures comparing the price which he now receives with the price which he received a few years ago. I believe it has gone down more than 50 per cent.—Then the increased demand upon the fat of cattle has had the result of pulling the price of fat down?—I do not say that that is the cause.—That is generally contrary to the way affairs go; I suppose tallow is sold for about 23s. a hundred-weight?—Something like that; I believe it is 1s. 9d. a stone.—The oil of margarines is worth about 40s. a cwt., and stearine is worth about 30s. a cwt.; the two component parts of the tallow have each of them increased in value by about 50 to 75 per cent.—Anyhow the price of tallow is lower than ever it was before.—You say you would appoint inspectors to carry out the Acts in a rigid manner?—I want the Acts carried out in a manner more thorough than they are at present.—In your opinion are the powers in the hands of the local authorities sufficient if they were



carried out at the present time?—Not altogether; to a great extent they are, if the Act were thoroughly administered.—To a certain extent the powers that already exist are sufficient to prevent mixing or adulteration if they were carried out?—I am not aware that an inspector at the present time has authority to test samples of butter and margarine that are imported; butter especially. I think it is only when it comes into the hands of the retailer.—But when they do come into the hands of the retailer he has that power?—Yes. I recommend that they should go to the fountain head and test it there.—When it is imported?—Yes, as soon as it is landed I should have it inspected.—I suppose the analysis of those samples would take some time?—Not very long, as I am advised.—What is to happen to the consignment while the analysis is being made; is it to be permitted to go bad?—I gathered from you just now that margarine kept longer than butter, and there would not be much risk during the time necessary to have the test made.—Supposing it happened to be butter; but, at any rate, the analysis is not a very speedy process is it?—It might take 36 hours. I am not prepared to say.—Meanwhile the cargo, or consignment, is to lie by until the analysis is made?—Butter that will bear analysis is prepared to keep, and will keep, longer than butter made for immediate sale, and it would not suffer to any extent by the period necessary for analysis.—Mr. Frye: Do you mean to say that fresh butter would not deteriorate by keeping it 36 hours longer than usual?—Most of it is not fresh butter.—I am speaking of fresh butter, like Normandy butter?—I think it would bear the 36 hours. Well-made butter should at least keep for seven days perfectly sweet and fresh.—Mr. Whiteley: With regard to the inspection of margarine factories I am in agreement with you; but are you aware that most of the margarine factories are on the Continent?—A great number of them; but there are a certain number in Great Britain; I think 17.—Nine or ten was the number given us; but you would place our own margarine factories under more rigid conditions than you could the Continental ones?—We cannot impose our regulations on the Continent, of course.—That would tend to keep away from this country the manufacture of margarine, would it not?—I would not impose any conditions under which a legitimate business could not be carried on.—Mr. Yerburgh: Mr. Whiteley asked you, I think, as to whether you knew that four-fifths of the butter consumed in this country comes from abroad; on that I should like to ask you whether there are any figures as to the amount of butter produced in this country?—It is only an estimate of what is produced in this country. You have the figures of the quantity imported, but it is only an estimate of what is actually produced here.—Mr. Whiteley: Can you give us your estimate?—I have never formed one.—Mr. Yerburgh: If we have not got any figures as to the amount of butter produced here, have we any estimate of the amount of butter consumed here?—It can only be an estimate and not a very close one. You must take the number of cows and how much of the milk is sold as milk, and how much is turned into cheese, and then assume that each of those cows should make a certain number of pounds of butter.—Therefore you can have no absolute figure?—No reliable figure.—Then we should not be justified in assuming, as we have not got this figure, that four-fifths of the butter consumed here comes from abroad?—I should scarcely take it as correct that that quantity did. I have no means of saying that it is not so.—Mr. Frye: You said this morning that you would not allow any colouring to be put into margarine; would you prohibit the colouring of butter?—No. I have already said that I am not prepared to prohibit that.—But would it not be very unfair to allow one article to be coloured and the other not?—I do not think so; one article is coloured so that it may be sold for what it is not. Butter is only coloured to make it more attractive, and still to be sold as butter.—What would be the colour of pure butter if it were not allowed to be coloured?—I should say that three-fourths of the butter that is sold is absolutely uncoloured; it is only a small proportion that is coloured at all, and that generally during only a few months of the year.—If they were both prohibited from being coloured, the colour would be very little different, would it not?—Margarine is of a much paler colour than butter. It is possible that during a month or two butter from the milk of very badly fed cows might be only a little higher in colour than margarine; but there is very little butter indeed that approaches margarine in colour.—Foreign butters that come into this country, I suppose, are coloured, are they not?—Yes.—Would you prohibit those being coloured?—I do not think that much of the imported butter is coloured really.—But if they were, would you prevent the makers from using colouring matter?—No, I do not think I should interfere with the colouring of butter at all.—I suppose you are aware that vast quantities of margarine are used in large institutions, such as workhouses?—Yes.—And lunatic asylums?—Yes. In many cases it is sold, not as margarine, but as Cork thirds. I know unions and workhouses where that is done.—I suppose that good margarine is better than bad butter, is it not, at the same price?—Good butter is more wholesome.—You said just now that you would insist upon margarine being labelled in hotels and restaurants; what sort of a label would you have placed on it?—I go into a restaurant, and ask for butter; I do not ask for margarine, and I do not require it to be labelled. I want to be sure I get butter when I ask for it.—How do you know the difference; could you tell the difference?—I want to be protected from having margarine when I pay for butter.—Then you must have a label?—No. I do not ask for margarine; I ask for butter. I do not ask that butter shall be labelled.—I do not see how you will obtain what you want?—The

course that I have been recommending, I think, would prevent my being supplied with margarine when I go to a restaurant and ask for butter.—Would you prevent the hotel keepers from buying margarine at all?—I would not allow them to sell it as butter or supply it to customers as butter. They may have customers who might ask for margarine. In that case I would allow them to supply it.—You said that you would have all margarine factories licensed; I suppose that you know that they have to be registered now?—I do not know whether I went so far as to say that they should be licensed. I think I said that they should be registered. I am not prepared to say that a licence might not be imposed too.—Do you know that they have to be registered now?—Yes, I believe they are. I think they should be. I believe there are some factories at which margarine is made that are not registered.

(To be continued.)

## JUSTICE'S JUSTICE.

### THE GOSPORT COCOA CASE.

In the Queen's Bench Division, on December 18th (before Justices Wills and Wright), Mr. T. Willes Chitty moved ex-parte for a rule nisi calling upon certain justices of Hampshire, sitting at Gosport, to show cause why they should not state a case on a point which arose before them under the Sale of Food and Drugs Act. The learned counsel said the police in the district had been instructed by the County Council of Hampshire to take proceedings against persons who sold goods contrary to the Sale of Food and Drugs Act, and a grocer of the name of Moore sold to Sergeant White a pound of cocoa. One-third of this quantity was submitted to the public analyst, and he certified that the cocoa was adulterated to the extent of 80 per cent. with starch and sugar. Proceedings were then taken against Moore, and at the hearing he pleaded guilty. The chairman of the Bench told him that that was a mistake, that he was a most incompetent defendant, as he did not know how to conduct his case, and that he had a defence. The magistrates said the charge was not proved, and dismissed it, although the defendant in the first instance pleaded guilty.—Mr. Justice Wills: On what ground did they so act?—Mr. Chitty said Admiral Field, the chairman of the Bench, asked the sergeant what cocoa was, and he replied that cocoa nibs was pure cocoa. The Admiral said the defendant was making a poor defence, that he was a most incompetent defendant, that he (the Admiral) could make a better defence himself, that he could not see the defendant suffer, and that he was inclined to make a defence for him. The Admiral then asked the sergeant what he expected to get when he made the purchase, and he replied that loose cocoa was what he asked for, and he expected to get cocoa. The Admiral replied, "You did not know just now what cocoa was at all. No one would think of drinking pure cocoa. Ground cocoa nibs would be almost intolerable. Anything more nasty I cannot conceive. You may just as well drink mud." The Admiral, who got red in the face, finally banged "Stone's Justice of the Peace" on the desk, and said, "Go away, there is an end of the case."—Mr. Justice Wills: That is not a proper way to introduce the subject, saying that the Admiral got red in the face.—Mr. Chitty: I am simply reading an account of what took place.—Mr. Justice Wills: It is an improper way to bring the facts before us.—Mr. Chitty: But your lordships asked what took place in court, and I have read that which is verified by affidavit.—Mr. Justice Wills: Then it is a very improper way of doing it, and we cannot allow affidavits of that kind to go on the file.—Mr. Justice Wright: I should think the justices would move to have that paragraph struck out, and with costs as between solicitor and client.—Mr. Chitty: With respect, it does show what took place before the magistrates.—Mr. Justice Wills: You had better have another affidavit and renew your application.—Mr. Chitty: May I read what the affidavit says?—Mr. Justice Wills: I object to that affidavit with such an exhibit going on the file. It is not a proper way of doing it. You must renew your application with a proper affidavit. It is quite time to stop proceedings in this court being made the means of casting mud at other people. It is too often done.—Mr. Chitty: With respect, I have a proper affidavit, but your lordships asked what took place.—Mr. Justice Wills: And you read an offensive paragraph.—Mr. Chitty: The affidavit explained the way in which the case was decided. The magistrates took a view which was wholly unreasonable.—Mr. Justice Wills: It may have been so, but we are not going to grant a rule upon these materials. We give you an opportunity of renewing your application on a proper affidavit.

### CHEWING GUM.

A VERY reprehensible habit introduced into this country by our American cousins is that of chewing "gum," the said "gum" being a composition for chewing only, and when by chance swallowed it has been known to produce terrible disorders of the stomach. At Chesterfield the food and drug inspector has attempted to deal with the evil by summoning a shopkeeper who sells this "gum," which, it seems, is in great demand amongst school children, for "retailing an article of food" containing 35 per cent. of paraffin wax. The case was heard yesterday, but as the sample of "chewing gum" produced was labelled "not to be eaten," the Bench declined to recognise the commodity as food, and dismissed the summons. On the application of the inspector a case was stated, and success may yet attend his laudable efforts to prevent such articles being sold to the injury of the little ones.—*Lloyd's Newspaper.*



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**Food and Sanitation.**

SATURDAY, DECEMBER 29TH, 1894.

**FRAUDS IN SOAP.**

GENERALLY the consumer gets far better value for his money, and far less injury to his skin, by using a good "white curd" or "primrose" soap than by employing a high-priced toilet soap, while cheap toilet soaps, especially cheap transparent soaps, should be strictly avoided.

The demand made by consumers for cheap soaps, which in many cases are sold retail at prices considerably below the wholesale market price for a true soap, has given rise to the introduction of highly watered soaps, caused to set hard by the addition, during manufacture, of sodic sulphate, which enables the manufacturer to make a so-called soap often containing less than 20 per cent. of true soap.

**MALT EXTRACTS.****A BREWER'S VIEW OF THEIR MERITS.**

WE learned, a short time ago, through a pamphlet issued for the purpose of praising the beauties of the genuine Johann Hoff's Malt Extract, that this magic beverage possesses the quality to liquefy 60 per cent. of starch meal.

The chemist who found this lives in Glasgow (Scotland) he has the title of Doctor, with the following appendix: F. I. C., F. C. S., and his name is J. J. Coleman.

Among other things he says the following:

"The word 'Malt Extract' is, by common consent of chemists, applied to that portion of a malt liquor which has not either been fermented into alcohol, or which after fermentation, has escaped conversion into alcohol. Further, malt extract is a solid, it requires four times as much as any of the others to effect the same result.

"The total result is as follows, the figures being calculated to avoid decimals, and to show the amount of starch in the bread, which became soluble by the agency of the various liquors, the bread used in each case being of the same weight:

	Per cent. of the Starch.
The Burton Ale dissolved ... ..	5
The London Porter dissolved ... ..	40
The Wrexham Ale dissolved ... ..	26
The Genuine Johann Hoff's Malt Extract	60

"The importance of an agent like Johann Hoff's liquid upon the digestion and nutrition may be estimated, when it is considered that starch forms so large a proportion of the diet of man, that in its natural state, or even when boiled, it is not soluble in the sense of being capable of absorption through a membrane (although it may become pasty or sticky), and that before it can be absorbed by the assimilative organs it must become soluble."

This is one of the brightest chemical-physiological demonstrations of the present day in connection with a mystery which gives an importance never thought of before to the nutritive value of beer. (All fermented malt extracts are beers.) Heretofore it was believed that nothing could be said of any starch transformation after the reaction of the malt diastase in the human body, for the reason that this diastase is completely lost during the boiling of the wort. As a matter of fact, however, there do exist in the human body also other starch converting agents, which have nothing to do with malt extracts.—*American Brewer.*

**SELLING ADULTERATED COFFEE AT SMETHWICK.**

AT Smethwick Police-court, on December 19th, before Messrs. W. Harley and J. H. Wilkinson, Walter Atkins, grocer, Montague-road, Smethwick, was charged, at the instance of Mr. Van Tromp, inspector under the Food and Drugs Act, with selling adulterated coffee. On November 25th, two of Mr. Tromp's assistants visited the defendant's shop and purchased a quarter of a pound of coffee, for which they paid 3d., being at the rate of 1s. per lb. The analyst's certificate showed that the sample was adulterated with 62 per cent. of chicory. It was stated that the coffee was wrapped in an unlabelled piece of paper. Defendant was fined £1 16s. 6d., including costs. Mr. Harley (magistrate) pointed out that the defendant had his remedy against the dealer from whom he purchased the article.—Edward Robinson, grocer, of Montague-road, Smethwick, was also charged with a similar offence. The sample of coffee purchased in this case contained 83 per cent. of chicory. Defendant said his wife purchased the article as coffee. She paid at the rate of 10d. per lb. for it, and sold it again retail at 1s. per lb. He further stated that they had only been in business for about a fortnight. In reply to the magistrates, Mr. Tromp said the price of pure coffee was 1s. 7d. or 1s. 8d. per lb., whilst chicory was only 4d. or 5d. per lb. Defendant was fined £1 16s. 6d., including costs.

**THE "MIXTURE" QUESTION.**

A REPRESENTATIVE of the Victoria Tea Company appeared to answer a summons, taken out by Inspector Wiggs, of the Lambeth Vestry, charging defendants, under the 6th section of the Adulteration of Food and Drugs Act, with selling to the prejudice of the purchaser, an article of food which was not of the nature, substance and quality demanded. Mr. Smith, solicitor and clerk, of the Lambeth Vestry, prosecuted; and Mr. Baker, solicitor appeared for the defence. A female employed by the sanitary inspector was sent into the defendants' shop for a ½ lb. of coffee. She was told that they did not sell coffee in bulk, but she could have a ½ lb. tin of good mixture. She thereupon purchased a tin labelled "This is sold as a mixture of chicory and coffee." Upon being analysed it was found that the "mixture" consisted of 85 per cent. of chicory and only 15 per cent. of coffee and this, Mr. Smith contended, was an evasion of the Act. For the defence, Mr. Baker submitted that the article sold being labelled as a "mixture" the defendants had protected themselves against the charge of selling to the prejudice of the customer. Mr. Denman held that he was bound by the recorded decisions of the High Court, and fined the defendant company £10 and £1 13s. 6d. costs.—William Stevens, trading as the South-Eastern Dairy Company, was summoned by Inspector Thomas, of the Bermondsey Vestry, for selling milk denuded of 90 per cent. of its natural cream. The defence was that the milk was sold as "skimmed," but the evidence rebutted this contention. Three previous convictions were proved, and Mr. Denman inflicted a fine of £15 and 12s. 6d. costs.—In two other cases of a similar character fines of £5 and costs were imposed.



## ACETIC ACID v. MALT VINEGAR AGAIN!

AT the Dukinfield Police-court, on December 13th, Henry Chadderton, 37, Crescent-road, greengrocer, was summoned for selling a pint of malt vinegar which was not of the nature, substance, and quality of the article demanded by the purchaser, inasmuch as it was a mixture of acetic acid and water, which had been coloured. Mrs. Chadderton appeared, and pleaded not guilty.—Mr. Samuel Lea, inspector under the Sale of Food and Drugs Act, stated that on Friday, November 16th, at 3.30 p.m., he went into the defendant's shop in Crescent-road. The defendant's wife came into the shop, and he asked her if she would sell him a pint of malt vinegar. She served him with the vinegar, for which he paid 2d. After the purchase he informed her that he was an inspector under the Sale of Food and Drugs Act, and it was his intention to submit a sample of the vinegar to the public analyst for the purpose of analysis.—Mr. Bates: What is vinegar worth?—Mr. Lea: You can get the best malt vinegar for 2d. per pint. Some places they sell it at 3d.—Witness, continuing his evidence, said the pint of vinegar was divided into three parts in the usual way. One was forwarded to the public analyst, and he had sent the following certificate: "This is not a sample of malt vinegar, but merely a mixture of acetic acid and water which has been coloured."—Mr. Bates: What did you ask for?—Mr. Lea: A pint of malt vinegar.—Mrs. Chadderton: No, you asked me if I sold vinegar and I said yes. Didn't I reach this bottle (*produced*) and give you a pint out of it?—Mr. Lea: I don't know what bottle you got it out of.—Mrs. Chadderton: Didn't I reach this bottle out labelled "pickling vinegar?"—Mr. Lea: I don't know anything about that bottle.—Didn't I say you can see it is labelled pickling vinegar?—Mr. W. S. Lowe: What kind of vinegar did he ask for?—Mrs. Chadderton: He did not ask for any particular kind. He asked if I sold vinegar, and I said I did. He asked for a pint, and I reached this bottle labelled "pickling vinegar," and sold him a pint out of it. I told him the person's name in Ashton where I got the vinegar from, and told the inspector that he told me he bought it for malt vinegar. But the bottle was labelled pickling vinegar.—Mr. Lea said malt vinegar was used for pickling, and he used it at his house.—Mrs. Chadderton: I told him it was pickling vinegar. He is telling untruths.—The Clerk: Had the bottle a label on?—Mr. Lea: Yes, but I did not see it until after the purchase.—Mrs. Chadderton: The bottle was on the counter all the time, and he saw me pour out the vinegar.—Mr. Padday, assistant to Mr. Lea, was called, and swore that malt vinegar was asked for.—At the close of the case Mr. Bates said it seemed one of those questions in which there was just a small dividing line between innocence and guilt. There was some doubt as to what the inspector did ask for, whether malt vinegar or vinegar. Acetic vinegar was a new idea. It was the result of what he might call superior civilisation. They had some one in Ashton making up a compound that was not killing in its character, but it was sold to the trade for 2d. a pint as good vinegar, which, as a rule, was 4d. or 5d. a pint. However, the Bench did not believe the inspector asked for malt vinegar. People must cease to buy this compound as pure malt vinegar. They thought the inspector did not ask for malt vinegar, and the case would be dismissed.—Nancy Bertenshaw, 68, Town-lane, confectioner, was summoned for a similar offence on the 16th ultimo. She pleaded guilty to selling vinegar, but not malt vinegar. Inspector Lea proved going to defendant's shop and asking for a pint of malt vinegar. The analysis was similar to the other case. The defendant informed him that she bought it as malt vinegar.—Mr. Lowe: From the same man?—Yes.—Mr. Lowe: He is doing a grand trade.—Mr. Bates: Who is this individual?—Waterhouse, of Ashton.—The Clerk: There are two Waterhouses in Ashton. We had better have the right one—William Henry Waterhouse.—Defendant said the inspector first asked her if she kept ground ginger, and then he asked her if she sold vinegar. She said sometimes, but not much. She kept it chiefly for private use. She did not sell a pint a month. He asked her if she would sell it as malt vinegar, and she said she could not, because she did not know whether it was malt vinegar or what it was. She bought it for pickling purposes.—Mr. Bates said the Bench were of opinion that defendant had committed an offence against the law, and she would be fined 5s. and costs. He trusted the people who sold this to small tradesmen would take a little warning. It was, of course, a compound which did no one any harm, but it was not what people expected to buy. People expected their pickles to be good and wholesome, but if this vinegar was used that was not what could be expected.

## VINEGAR ADULTERATION.

EDWIN GREENMAN, of Dean-lane, Bedminster, was summoned at the Bristol Police-court, for selling, through his wife a pint and a-half of vinegar which was not of the substance demanded. Inspector Evans proved the case, and Mr. W. Clifton appeared for the defendant. A fine of 10s. and costs was imposed.—A similar fine was imposed upon Kinderdine Rae, of 103, East-street, Bedminster, for selling as Demerara sugar, sugar crystals artificially dyed with a coal-tar colouring.

## WHITE WAX ADULTERATION.

ON Thursday, December 13th, at Edmonton, this case came on for hearing, the defendant being Stephen Bateley, chemist, of 678, High-street, Edmonton. The charge recited that "he unlawfully sold to the prosecutor, Arthur Liddall Bridge, a certain drug to wit white wax, which contained 85 per cent. of paraffin. The prosecuting solicitor was Frank Beal, Esq., and of Highgate, the defence being in the hands of John Avery, Esq. The case was opened by the recital of the facts of purchase the inspector and his assistant being ordered out of court by request, the defendant's solicitor desiring this most unusual course. The assistant to Mr. Bridge proved the purchase of the article, and also gave evidence of what took place in the shop upon the appearance of Mr Bridge, fully bearing out the statement subsequently made by Mr. Bridge, who stated that the purchase was made on November 5th by his instructions. The assistant came to the door of the shop and handed the article over to him, he then went into the shop and informed the defendant that the sample was for analysis by the public analyst, etc. The defendant said he had said something at the time of purchase, the assistant was asked what the statement was? He said, "This is what is sold as white wax." Mr. Bridge then asked the defendant if this was so, and he nodded in an affirmative manner. Mr. Bridge was examined at some length upon this point, but bore out his first statement. The analyst for the county of Middlesex was the next witness called, he gave evidence that the result of his analysis was as stated in his certificate; and that he had received a number of other samples on the same day, the whole of which were genuine samples of white wax. He also stated that the full result of his analysis was paraffin wax 85, white wax and beeswax 15 per cent. respectively. John Thrices, of Mount View-road, Hornsey, M.D., next gave evidence as to both paraffin wax and white wax being drugs, and that paraffin wax was not administered internally, being largely used in the manufacture of candles, whereas white wax was used in the making up of phosphorous pills. The defendant next gave evidence of his purchasing the article as white wax from one of the most eminent houses in the trade, Hill and Co., of London, and that he had no reason to believe that the article was not genuine white wax. A post-office clerk in the employ of the defendant, next gave evidence, stating that she heard some of the conversation but not all. The representative of the wholesale house was in court, but was not examined. The Bench retired to consider their verdict, and upon their return said that they must convict, and that they imposed a penalty 20s., costs of analysis 10s. 6d., solicitor 21s., doctor of medicine 21s.; and that they were of opinion that the defendant had acted in a *bonâ-fide* manner, but he had rendered himself liable through not having obtained a warranty.

White wax is used in the more refined ointments of the Pharmacopœia, paraffin wax being used in those ointments having a tendency to go rancid when made up with organic bases. Most organic fats and waxes are more or less absorbed by the skin. Not so paraffin wax; paraffin wax cannot be dissolved by any known acids or alkali, even if boiled in sulphuric acid for a whole day it is only converted into an oxide. Paraffin wax when taken into the system goes through completely unaltered, and as it has been found in margarine in quantity and even in butter, the importance of this point cannot be over estimated. Paraffin being both inodorous, colourless, and tasteless, renders its admixture with margarine a very easy matter.

## YEAST PROSECUTION.

AT the Barton, near Hull, Petty Sessions, recently, Overton Wass, grocer, Newport-street, Barton, was summoned for selling adulterated yeast on the 24th ult. Sergeant Parker stated he visited the defendant's shop on the above date, and asked for 4ozs. of yeast. He was served by the defendant himself, and after paying 2½d. put the yeast in his pocket. Defendant said to him, "Are you supposed to label that?" Witness replied, "You know your business, Mr. Wass," and then served a notice on defendant showing that the yeast was going to be analysed. After witness had served the notice, defendant said it was a mixture. Witness replied, "Yes, but you did not tell me that until I had purchased it." The public analyst certified that the article was adulterated with potato starch. In answer to the defendant, witness said there had been no complaints about the quality of the yeast. Defendant stated on oath that he told the sergeant before he sold him the yeast that it was a mixture, and this was corroborated by the defendant's assistant.—Thomas Skipper, yeast-dealer, said he supplied the yeast to the defendant, who was one of his customers. It was a high-class yeast, mixed in Germany, and more expensive than pure yeast. The public preferred the mixed yeast. Alderman Tomblason said the prosecution had been very properly undertaken. At the same time the magistrates did not think there had been anything done that was injurious to the public, nor were they certain whether yeast came under the Food and Drugs Act, and they would therefore dismiss the case.



## PROSECUTION CASES.

At Bilston, on December 18th, William Davies, grocer, of Broad lanes, was summoned for selling coffee adulterated with 95 per cent. of chicory. The defence was that the purchaser did not pay the price that would be charged for pure coffee.—The Stipendiary characterised the offence as a regular fraud, and imposed a fine of 20s. and costs.

At Tewkesbury Police-court, on December 14th, a shop-keeper named Mary Ann Dickenson, was summoned by Police-constable M'Carthy for having, on the 14th ultimo, exposed margarine for sale without labelling the same. A second summons charged the defendant with selling to Police-constable M'Carthy 1lb. of margarine containing a percentage of 95.5 of fats other than butter. The offences were admitted, and a fine of £1 and costs was inflicted in each case.

At Haywards Heath Petty Sessions, on December 19th, Thomas Bennett, of the Ship Inn, Cuckneld, was summoned at the instance of the inspector of weights and measures for selling whiskey with 4 per cent. of water added. Defendant pleaded guilty, but added that he did not know the spirit was below the stipulated strength. Through a mistake it had been broken down too much.—John C. Raw, inspector, said he bought the whiskey on November 26th. He produced the public analyst's report.—The magistrates treated the case as one of inadvertence, and imposed the mitigated penalty of 10s. and 6s. costs.

At Prescott Petty Sessions, on December 18th, J. Collins, of the Butter Place, Market-place, Prescott, was summoned for selling a pound of butter to Police-sergeant Nott, and Police-constable Clayton, on October 24th, which on being analysed by Dr. Campbell, public analyst, was certified as containing 11 per cent. of water and 7 per cent. of fat other than butter, and that the sample consisted of two distinct kinds—one butter, the other margarine.—Mr. H. L. Riley, St. Helens, defended, and elicited that other samples of goods were taken at the same and other times, and alleged that a portion taken to make weight was taken from another lump. The case was dismissed on defendant paying the analyst's fee and costs.

At the Paisley Sheriff Court, on December 17th, Sheriff Cowan on the bench, James Duguid, grocer, Neilston, pleaded guilty to two contraventions of the Margarine Acts, so far as he (1) exposed margarine for sale without having labels thereon 1½ in. square, and (2) handed to the purchaser the margarine sold to him without the same having been put up in paper wrapper with the word "margarine" thereon in letters an inch square. In the first offence he was fined £2, and for the second £1, with £1 11s. 6d. of expenses, or 21 days.—At the same court, John Wason, grocer, Neilston, was convicted, after proof, in absence, of having exposed margarine for sale without the usual labels, and he was fined £1, with £2 2s. 6d. of expenses, or 14 days. The complaints were at the instance of Mr. Charles Harding, the chief-constable of Renfrewshire, who was represented by Mr. D. D. Dickie, writer, Paisley.

At Shrewsbury, on December 11th, Sarah Ray, Greenfields, was summoned for selling to Police-constable Binnall milk which was not of the nature and substance demanded on the 11th ult.—Mr. H. C. Clarke (town clerk) prosecuted, and Mr. C. Payne represented the defendant.—Mr. Clark, in opening the case stated that on the morning of Sunday, November 11th, Binnall saw Mrs. Ray selling milk at Mardol Head. He asked to be supplied with a pint of new milk, which was given to him in a jug. When the purchase was complete he informed defendant that he had purchased it for analysis. Dr. Bostock Hill, the analyst for the borough, had certified that the milk was adulterated with 14 per cent. of added water.—Police-constable Binnall deposed to meeting defendant on Mardol Head, where she was delivering milk at Mr. Wheeler's. He asked her for a pint of new milk. She gave it to him in a jug, and he paid her 2d. for it.—By the Bench: Witness told defendant twice that the milk was for analysis by the public analyst.—Mr. Payne, for the defence, said it was a serious case for defendant, who was a widow, and had carried on her business for 30 years without any charge or complaint having been made against her. No water had been added to the milk whatever, and defendant was at a loss to explain the condition as returned by the certificate. Mr. Payne then called defendant, who denied that Binnall stated that the milk was for submission to the borough analyst. He said he was going to send it to Birmingham.—By Mr. Holt: She did not believe there could be any water in the tins into which the milk was placed.—Lizzie Walton, daughter of defendant, said she lived with her mother, and managed the milking. After milking, the milk was sieved into a large tin, and was at once put into a trap for sale. Witness had never added any water to the milk, nor had she seen any added. She had the tins under her observation from the time of milking up to time of being sent out.—Mary Clift, domestic in the employ of Mr. Wheeler, of Mardol Head, deposed that Binnall said that he was going to send it away "to a doctor" at Birmingham for analysis. He did not use the words "public analyst," and

witness could not remember the name of the doctor, although it was mentioned.—The Bench considered the case proved, and defendant was fined £1 and costs, or 21 days.—On the application of Mr. Payne, the magistrates agreed to state a case on a point raised that the certificate did not comply with the Act inasmuch as it did not state the name of the person from whom the sample was received.

## NOT SATISFIED WITH THE ANALYSIS.

GEORGE MILLWOOD, grocer, West Cowes, was summoned at Ryde, on December 15th, for selling butter adulterated with an excess of water.—Mr. W. H. Wooldridge, who appeared for the defence, applied for the third sample to be sent to Somerset House for analysis, remarking that they were not satisfied with that made by the public analyst.—The Chairman said it was in the discretion of the Bench to make the order, and added that as the samples were taken on November 6th, it was very probable that what water there was in the butter would be absorbed since then.—Mr. Wooldridge pointed out that the summons was not served until December 5th.—The Bench granted the application, the Chairman, however, remarking that he thought it was a farce after such a lapse of time. The case was ordered to stand adjourned for a fortnight.

## EIGHTY-TWO PER CENT. OF MARGARINE.

AMY LAWRENCE, of Arctic-road, West Cowes, was summoned at Ryde, on December 15th, for selling adulterated butter.—Inspector McLaughlin purchased ¾ lb. of butter on November 6th, for which he paid ninepence. On being analysed it was found to contain 18 parts of butter and 82 parts of margarine.—Defendant, who stated that she kept refreshment rooms, said she knew nothing about salt butter. It was the first lot she had had in, having sold fresh butter all the summer. It was supplied to her as Rosevale.—The Chairman (to the inspector): Have you ever heard of margarine being sold under the name of Rosevale?—The Inspector: I have never heard such a thing, sir. It is a fresh name for butter.—The Bench imposed a fine of 5s. and costs 19s. 6d.; a fortnight allowed for payment.

## HOW DID THE WATER GET THERE?

HENRY PERRY, of Gurnard, was summoned at Ryde, on December 15th, by Inspector McLaughlin, for selling milk adulterated with 15 parts of added water.—Defendant said he was pleased to serve the officer, as he knew the milk was the same as it came from the stable. He could not say how the water got there.—Robert Perry proved that the milk was not tampered with from the time it was taken from the cow to the time it was delivered to his father in the cart.—The Bench inflicted a fine of £1 and £1 1s. 6d. costs.

WHOLESALE POISONING BY BREAD IN SAXONY.—The German newspapers report an extraordinary case of wholesale poisoning at Frieberg, in Saxony. No fewer than 150 persons have been taken seriously ill through eating breakfast rolls obtained from a certain bakery in the town, and a child has already died. The baker at whose establishment the rolls were baked and the members of his family are among the sufferers. It is stated that a private chemical analysis of the rolls has established the presence of arsenic in them, but it is not yet decided whether this is due to carelessness or to criminal intention. The authorities have instituted an inquiry into the matter.

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## THE MARGARINE ACT.

### IMPORTANT DECISION IN THE COURT OF QUEEN'S BENCH.

**SMART AND SONS v. WATTS**—This was a special case heard on December 8th, stated by certain justices of Hendon, who had convicted the appellants of offences under the Margarine Act, 1887. The points raised were whether, when an inspector under the Food and Drugs Act took a sample of butter to ascertain whether it was margarine, he was bound to notify to the seller that he had taken it for the purpose of analysis, and whether he was entitled to take proceedings merely upon an admission made by a person in the shop that the article purchased was margarine. Mr. Bonsey and Mr. Lawrence appeared for the appellants, while Mr. Earle represented the respondent. It appeared that the appellants were provision dealers at Hendon, and in June last the respondent entered the shop and asked for "a quarter of a pound of this butter," pointing to an article contained in a tub on the counter. The substance was placed in a paper wrapper, and handed to him by the wife of the manager. The label "margarine" on the tub had been turned upside down. When the respondent informed the manager's wife that he was an inspector under the Food and Drugs Act, and called her attention to the label, she replied that what she had sold was not butter, but margarine, and that she was serving temporarily during the absence of the manager. The manager subsequently entered the shop, and stated that the article which had been sold to the inspector was margarine. The inspector did not give either the manager or his wife notice that the article was purchased for the purpose of analysis, nor did he submit it to the county analyst, but relied upon the admissions of the appellants' manager and his wife. The magistrates found as a fact that the substance sold to the respondent was margarine, but that no label was attached to it when exposed for sale. They were also of the opinion, that although the respondent, when he asked for the butter, intended to have it analysed, with the view of ascertaining whether it was, in fact, butter or margarine, he abandoned that intention as soon as he was informed by the manager's wife that the article was margarine. In the result, the magistrates convicted the appellants of having exposed margarine for sale without attaching to it a label as provided for by the Statute, and of selling margarine by retail without delivering it to the purchaser in a paper or wrapper marked "Margarine." It is now contended by the appellants that the admissions of their manager and his wife were not admissible as evidence against them; that there was no evidence that the article sold was margarine; and that the giving of a notification to the seller of the intention of the inspector to have the substance analysed, and having the analysis made by the county analyst, were conditions precedent under the Act. For the respondent, it was argued that there was ample evidence to justify the convictions. There were the admissions of the manager and his wife, and the article purchased was produced. It was further submitted that in such a case it was not necessary, in order to secure a conviction, to submit the article to the county analyst.

Mr. Justice Wills, in delivering judgment, said he was obliged to come to the conclusion that the substance in this case had not been proved to be margarine. There were certain formalities provided by the Act, but these had not been observed. He regretted that it should be necessary that the expense of an analysis should be incurred in cases where the parties apparently did not dispute the fact of the substance being what it was alleged to be, but he could not get over the words of the Act, and, therefore, the convictions would be quashed with costs. Mr. Justice Wright concurred. Convictions quashed accordingly, with costs.

## ADULTERATED BUTTER AT WORCESTER.

**JOHN HUTTON**, 24, Salisbury-road, Handsworth, Birmingham, was summoned before the Worcester City Bench, on December 10th, for selling adulterated butter on November 21st. He was further summoned for selling margarine without a wrapper marked "Margarine." Mr. S. Southall (town clerk) prosecuted; Mr. Dreaper defended, and pleaded not guilty. Mr. Southall stated that the summons was taken out under the Sale of Food and Drugs Act. The facts of the case were as follows: On the day in question Mr. Pacy, sanitary inspector, sent a Mrs. Archer to purchase a pound of butter from a shop in the Shambles. She did so, and Mr. Pacy entered for the purpose of dividing the butter. Defendant then entered, and upon learning what was going on, said that he was the manager of the shop. A portion of the butter purchased was sent to Dr. Swete, public analyst, and analysed by him, with the result that it was found to be adulterated to the extent of at least 50 per cent., and should therefore have been described as margarine, and not butter. Mr. Southall thought it necessary to say that this was an exceptionally bad case. The defendant traded under the name of the "North of England Butter Company" at 44, Shambles, and supplied a number of small tradesmen in the town. Mr. Pacy said that when he was dividing the butter, defendant said that nothing of the sort was allowed at his shop, and gave West, the assistant, notice of dismissal. Mrs. Archer, caretaker at the Smallpox Hospital, said that when she purchased the butter, for which she paid 10d., she asked West whether what he was giving her was butter or margarine, and he replied "butter," at the same time showing her the larger wrappers in which the margarine was wrapped. By Mr. Dreaper: Mr. Pacy had not paid witness in any manner whatever for her services. For the defence Mr. Dreaper urged that defendant was not the manager of the company, nor even a shareholder, but simply the travelling inspector of the company, and therefore not liable. Defendant was called, and bore out this statement. The manager of the Worcester shop, he said, was a man named Samuel Bowles. Mr. Southall questioned who were the members of the firm, and if defendant was not a responsible member, but defendant declined to publicly state who composed the firm. He admitted, however, that all the members were relations of his. The Bench, after consideration, decided to convict, but at Mr. Dreaper's suggestion, decided to go into the other cases before inflicting a penalty. The summons against Oliver West was called on, but the town clerk, saying that West was an employé, and that the Bench had decided to convict Hutton, asked to withdraw the summons. Mr. Dreaper regretted that course, as it denied him the opportunity of giving an explanation of the whole matter. The Bench inflicted a penalty of £10 and costs, £2 3s. 6d., or the usual alternatives.

## SPENT GINGER.

**ARTHUR MACHIN**, grocer, Hillsborough, was summoned, at the West Riding Court, before Mr. T. W. Jeffcock, Mr. T. W. Cadman, and Mr. B. J. Young, for having sold ginger which was not of the quality demanded by the purchaser. Evidence was given to show that some ginger purchased from the defendant contained 30 per cent. of exhausted ginger. Defendant said he purchased the ginger fifteen months ago from Messrs. Nicholls and Company, Gibraltar-street, Sheffield, and understood that it was pure. Mr. J. Goodall, a partner in Messrs. Nicholls, said that his firm were summoned some time ago for selling ginger, of which the defendant's sample formed a portion. On finding that it was not pure they advertised, asking all purchasers to return it and receive fresh ginger. The defendant said that he never saw the advertisement, and had acted in pure ignorance. The case was dismissed.

# CHAMPION'S MUSTARD

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## MUSTARD SEED ONLY.

**CHAMPION & CO.,** so far as they are aware, are the only makers of importance who **DO NOT MAKE AN ADULTERATED MUSTARD.**

**CHAMPION & Co.** confine their attention to selling only Genuine Mustard Flour, milled and manufactured from Mustard Seed. They frequently sell 20,000 tins of such Mustard in a day in London alone.

To make **CHAMPION'S Mustard**, it is essential to use only the finest Mustard Seeds, inasmuch as chillies or ginger cannot be employed to produce pungency, nor can turmeric be utilised to secure high colour; consequently ripe and perfectly-coloured Mustard Seed only can be used.



## THE LAW AND PUTRID EGGS.

## THE CONFECTIONERY TRADE UP TO DATE.

A VERY important case, which was kept out of the public press, was heard at the Clerkenwell Police-court, before Mr. Bros., on the 14th inst., in which the defendant, Mr. J. Baerselman, of 16, Eastcheap, E.C., who is a large wholesale dealer in Russian eggs, was charged by the Islington Vestry under Section 47 (3) of the Public Health (London) Act, 1891, with having sold a quantity of eggs, about 5,000, to Mr. Patrick Sullivan, a retail dealer, trading at 197, Caledonian-road, on November 5th last, and which, when purchased by him, were in such a state as to be liable to be seized and condemned. The defendant's case was that the eggs, which were a portion of a parcel of ten cases, when delivered to the purchaser (Sullivan) on November 5th were in a sound condition, but that the shavings in which the eggs were packed were damp, and that heating subsequently occurred and caused the eggs to go bad. Also that the eggs were not unpacked until November 14th, whereas the custom was said to be to open the cases immediately, and that this also was a great cause of their unsoundness. For the prosecution it was urged by the medical officer of health (Dr. A. E. Harris), that supposing the eggs to have been sound on the date of delivery, it was impossible, in the short time from delivery, November 5th, to the date of the cases being opened, November 14th, nine days, that the eggs could have reached the state of putridity in which they were found. The magistrate dismissed the summons on the point that the defendant had not known and had no reason to believe when he sold them, that the eggs were in a bad condition, but he hastened to add that in his opinion the eggs were unsound when sold. From the evidence it did not appear that any person on behalf of the defendant had sampled these eggs before being placed on the market and handed over to the retailer for public sale. The retail dealer, it seems, in buying eggs, does not know what he is receiving until they have arrived at his premises, when, if they should be unsound he is placed in the anomalous and unenviable position that if a sanitary inspector should drop in to his shop and find them, he would, in all probability, be summoned for having on his premises unwholesome eggs intended for the food of man. It is too ridiculous, because a person, being a wholesale dealer, does not take the trouble to examine what he is selling, that, therefore, he shall escape penalties. It is high time that an end should be put to such loose methods of dealing in food stuffs, and that every person who sells food should be held responsible for the condition in which it is sold. It is simply monstrous that the sale of putrid eggs should be allowed to be carried on in wholesale manner while heavy penalties are inflicted on the small retailer.

The Vestry of Islington, although they failed in this prosecution, yet did a public good in bringing the action, for the exposure of the tricks of the trade will pave the way to more drastic remedies against wholesale merchants. We are glad to note that Mr. Bros. declined to allow the defendant's costs.

## WEAK WHISKEY AND RUM AT WORSBRO' BRIDGE.

A POINT of interest to publicans in the changing of tenancies was brought forward during the hearing of two cases under the Food and Drugs Act, at Barnsley Court House, on December 19th, before Messrs. C. Harvey (in the chair), C. Brady H. Pigott, and Captain Ormsby. The defendant was Israel Gibson, landlord of the Wharfe Inn, Worsbro' Bridge, and he was charged, at the instance of John Henry Bundy, inspector of the County Council, with having sold a quantity of whiskey which was adulterated in excess by 25·3 per cent. of added water, and a quantity of rum which was adulterated in excess by 15·5 per cent. of added water. Mr. Carrington defended. Mr. Bundy gave evidence of the purchase of the samples on the 23rd ult. and produced the reports of Mr. Allen, public analyst. This stated that the whiskey was of an alcoholic strength of 44 degrees under proof, which corresponded to a mixture of whiskey of the minimum legal strength (25 degrees under proof), 74·7 parts, excess of water 25·3 parts. The sample of rum had an alcoholic strength of 36·8 degrees under proof, which corresponded to a mixture of rum of the minimum legal strength (25 degrees under proof), 84·5 parts, excess of water 15·5 parts. Mr. Carrington admitted the facts, and said the defendant had been a victim of an unfortunate circumstance. The man took possession on October 8th, but made no examination of the spirits and liquors. They remained exactly in the same position as found by the inspector. He had no idea of the excessive adulteration. It was, no doubt, his business to have made an examination of his spirits and liquors in accordance with the Statute. The defendant, sworn, stated he took possession of the house on October 8th, paying a valuation of £138, including stock. He did purchase some liquors prior to Mr. Bundy's visit, but they had not been used. The spirits from which the samples were sold to Mr. Bundy were taken from the liquors exactly in the same condition as purchased in the valuation. The Chairman: If it had been all water you would have taken it and paid for it? Mr. Carrington: I am afraid he was imposed upon. The Chairman said these men took these things as stated by the outgoing tenant. It was a foolish thing. He would be fined 10s and costs in each case. It was a deliberate fraud, and it was an unbusiness-like way of doing business.

## REFUSING TO SELL FOR ANALYSIS.

At the Dukinfield Police-court, on December 13th, Mary Ellen Dodd, Matley, was summoned for unlawfully refusing to sell to Inspector Samuel Lea one pint of milk for the purpose of analysis on November 18th. Defendant pleaded not guilty. Mr. Lea said he was an inspector under the Sale of Food and Drugs Act under the Cheshire County Council. On Sunday morning, November 18th, he was in Dukinfield endeavouring to obtain samples of milk for the purpose of analysis. About 9.40 he saw a milk cart standing in Astley-street. As he got towards the cart he saw the defendant come from a house with several small milk cans in her hand. She went to the cart and got inside. Mr. Ralph Bates: Was it a low float?—Mr. Lea replied that it was a high cart. He then said to her, "Will you please sell to me one pint of milk?" She replied "I cannot spare you any milk this morning," and she then drove her horse along. He ran alongside the cart, and informed her that he was the inspector under the Sale of Food and Drugs Act, and he demanded to be served with a pint of milk for analysis. He also offered money with which to pay for it, but the only notice she took was to thrash the horse and make it go faster. He then informed her that she was liable to a penalty of £10 if she refused to let him have the milk. She then replied, "I have not got any." He then asked her to let him look in the big cans, but she paid no heed, and drove away as fast as the horse could go.—Defendant: You asked me for a pint of milk, and I told you I hadn't any. Then you turned the taps of the milk cans and put money down. I told him the money was of no use to me without milk, and I then drove away.—Inspector Lea said he did not turn the taps.—Defendant: You put your hand to the taps and turned them.—Mr. Bates: Are we to understand that the cans were at the tail of the cart, and the taps hung over.—Defendant: Yes.—So that the milk or water, if any, would have flowed into the road if the taps had been open? Yes.—Inspector Lea: I never saw the taps.—Defendant: Didn't my mother say that if I sold you a pint I should have to buy it?—Inspector Lea: No.—Mr. Bates: You say there was none in the can?—Defendant: There was not.—Edward Paddy, assistant to Inspector Lea, corroborated his evidence.—Mr. Bates: It may be she had none, and it may be her "nowtiness" in refusing to sell.—Mr. W. S. Lowe: Did she say she hadn't any, or could not spare any.—Witness: She said she could not spare any.—Mr. Bates: The terms are somewhat different.—Mrs. Sarah Dodd, mother of the defendant, was called, and corroborated the defendant's case that she had no milk to sell.—Mr. Bates: It is not for the Bench to instruct you how to conduct your case, but your daughter has said something about taps.—Mrs. Dodd: Yes; the inspector turned the taps, I am quite certain.—Mr. Bates: You cannot be wrong?—No, sir; he turned them, and no milk came.—Had you your cans hanging behind? Yes, and one in front.—You could not serve him if you had not any.—In reply to Inspector Lea, witness denied driving the horse away as fast as she could. She never had the reins at all. Mr. Bates said the decision of the Bench was very easily arrived at. They thought the defendant had no milk to give the inspector, and if she had not got any, how could she possibly serve him with any, whatever the law might say about it. It was a weak case. The inspector must come with something stronger. Case dismissed.—Inspector Lea: I am sorry to hear you say that, your Worships.

COW MILK *versus* HUMAN MILK.

BIEDERT (*Berl. klin. Woch.*, October 29th, 1894) holds that there is no antagonism between the chemico-physical principles of infant feeding and the bacteriological considerations treated of by Heubner. Cow casein is difficult of digestion, and the undigested remains serve as a soil for the growth of micro-organisms. The amount excreted in the stools is no exact measure of the digestion of food. In children fed with cow's milk the work of digestion is increased, and the residue in the stools may be only moderately increased. Intestinal antiseptics chiefly depends on a satisfactory digestion and absorption of the intestinal contents. The stools of those fed with cow's milk differ from the soft yellow stools of the breast-fed. The author has seen differences between the stools of the latter and of those fed on sterilised milk. The chief site of the pathological processes in the deranged digestion lies in the cæcum and large intestine, hence the value of local treatment (washing out). Breast fed children may thrive and yet have thin diarrhoeal stools even containing mucus; but this is not so with those fed on cow's milk. Biedert has long advocated the boiling and subsequent cooling of the milk. He refers to some of the advantages of Soxhlet's apparatus. A quarter of an hour's boiling does not suffice for sterilisation. He then refers to the presence of micro-organisms in the saliva, stomach, and intestine, yet he believes in as perfect a sterilisation as possible of the milk. He speaks of the value of the addition of cream to the milk. He has found that Loefflund's half-peptonised milk approaches very nearly to human milk, but unfortunately it cannot be effectually sterilised. Human casein and cow's casein have been shown chemically to be two different bodies.



## THE SELECT COMMITTEE ON ADULTERATION.

## CONTINUATION OF MR. C. MIDDLETON'S EVIDENCE.

XXVI.

*(Continued from page 408.)*

YOU were asked just now about the painting of the barrels in which margarine is imported into this country; I understand that you are not in favour of that?—I scarcely went so far as that.—And as regards the inspectors, I fancy from what you said that the number of these inspectors would be greatly increased?—I think it is necessary that there should be more of them.—Where is the money to come from to pay those inspectors?—If a licence was imposed that would go towards meeting the expense.—I should like to know what sort of sum for a licence you would suggest that those who sell margarine should have to pay?—I am scarcely prepared to suggest that they should pay for a licence.—You would prevent persons in shops selling margarine from the same counter as butter?—Yes.—Are you aware that the greater part of this trade is done by small traders, to whom it would be quite impossible to have a second counter?—It is done by all classes of traders. It is not only the small traders who do it; many of the large traders do it as well.—I am speaking of the small shop-keepers?—He would have to have some division made in his counter; some partition made.—But they have to have labels now on this margarine, have they not?—Hitherto the labelling has not prevented the substitution of margarine for butter in many cases from these shops.—Then they run the risk of being fined, of course.—The profits on the transaction are much greater than the risk. They can afford to do it.—Then you said something about condensed milk; you said condensed milk was mixed with ordinary milk?—With skim milk; and I am led to believe that it is.—I suppose condensed milk has to be prepared with sugar?—Yes; I think that is part of the process.—Is it possible to mix that with separated milk, and for it not to be detected immediately?—I do not think it would be detected except by analysis.—You said something about your being able to buy pure butter at 1s. a pound, did you not?—Yes, at the present time, and much less than that in some markets in the North of England. I do not say that you can get the best butter at 1s. a pound, but you can get genuine butter at 1s. a pound.—Would it be Irish butter or English?—English butter; locally made butter.—And if all these prohibitions were put upon margarine, you would put up the price of that butter?—It would tend to raise the price.—That is, I suppose, what you would wish to do?—That is one reason. I should like to see the genuine article at a better price.—Mr. Yerburgh: Upon the question of the use of margarine by institutions, and also upon several questions asked by Mr. Whiteley with regard to the use of margarine in the North Country, I do not understand that you propose to prohibit the authorities of such institutions, or private buyers, from buying margarine, and from buying butter, and from taking those purchases home and mixing them at home if they wish to do so?—Certainly not; I would allow the purchaser to do what he liked with them. It is only the people who sell it that I would not allow to mix it.—Therefore you would see no objection to such purchases being made by authorities of institutions and private persons?—I would not interfere with persons buying what they like.—Therefore they could make purchases of what they wish at proper prices, and the result would be the same as if the mixture were made in the shop?—They might not make quite such artistic blends.—Mr. Frye: I understand that you advocate the selling of margarine alone, and butter alone?—Certainly. I do not wish to interfere with the sale of margarine as margarine.—And you would allow a customer to mix it at home?—Yes.—How could he do that?—He must do it according to taste.—Mr. Whiteley: Is not the mixing of margarine and butter a matter of mechanical skill as it is done on the Continent?—No, except as it is done in the highest degree.—Mr. Yerburgh: Are you aware of the practice in Copenhagen in this respect?—No.—We were told by a witness the other day that it was the common practice there for retailers to sell butter and margarine, and that the bulk of the customers who bought the cheaper sort of butter preferred to buy 2lbs. of margarine and 1lb. of butter, and, in that case, the retailers always presented them with a small capsule of colouring matter with which they might make the mixture at home; you were not aware of that practice?—I was not aware of the practice.—I suppose if they can do that in Copenhagen they can do it in this country?—I would not seek to prevent them.—Sir Mark Stewart: As a practical matter, I suppose if margarine were bought by itself, it would be used more for cooking purposes, but butter would be used more on the table?—By some purchasers margarine would be used for cooking purposes, but by others for table purposes.—Mr. Whiteley: Are you aware that the London County Council and the Asylums Board send out tenders both for margarine and for mixture?—I thought we were told that it was not allowed to sell mixtures except as margarine.—Have you heard of prosecutions for dyed sugar as an adulterated article?—Yes.—Can you give the Committee any particulars with regard to the colouring of sugar?—The colouring of ordinary raw sugar as imported, do you mean?—Yes?—The ordinary raw sugar that is imported varies in colour according to the amount of caramel that is left in the sugar itself. When we come to crystals of Demerara sugar, that is made by the vacuum-pan

process, and in certain descriptions there is a chemical used for the purpose of giving its distinctive hue.—If coloured or yellow crystals are sold as Demerara sugar, ought the sellers in your opinion to be prosecuted under the Sale of Food and Drugs Act for adulteration, or under the Merchandise Marks Act for giving a false trade description?—It strikes me that it should be under the Merchandise Marks Act so long as the colouring matter is so small that it does not amount to adulteration.—You do not consider that the colouring process is an adulteration, except beyond a certain point?—I have examined a sample that has been coloured, and the amount of adulteration by colouring is so small that it could not be considered adulteration.—Where do you think adulteration begins?—It is very difficult to say where one begins and the other ends; it depends entirely upon the article itself.—In your work, as judge of food at the Chicago and Paris Exhibitions, were any samples of dyed sugar brought under your notice?—No, except some of the Demerara sugar coloured for the American market; but not dyed in that particular way. It seems that in America, at the present time, refined sugar, or what is equivalent to refined sugar, only pays a duty on importation; the lower qualities of sugar pay no duty. Some of the sugars that are sent from the West Indies into America are coloured with caramel for the purpose of bringing them in without duty. If they came in at the ordinary colour they would pay duty. At the Chicago Exhibition I saw a number of these crystallised sugars that really had been coloured with caramel for the purpose of evading the duty.—Is the colouring removable afterwards?—Yes, by subsequent refining.—Are you familiar with whiskey analysis?—Yes.—Is it difficult in analysing whiskey to discover what percentage under proof the sample is?—We scarcely call that a chemical operation; we call it a mechanical one; it is a very simple operation indeed.—Would a quarter-ounce sample be sufficient to enable you to make a correct analysis?—You would have to use a very small vessel for doing your work then, but it might be done. I should not like to work on such a small quantity myself.—Do you call it careless for an analyst to make a mistake in analysing a quarter of an ounce sample?—Yes, I should.—Have you ever heard of such mistakes being made?—We have had a number of cases of spirits at different times, when the strength of the spirits has been wrong, where the analyst who was examining the sample of spirits had pronounced them to come below the limit, and we have found that they were above the limit.—Have you ever heard of any prosecutions with regard to the sale of beeswax under the Sale of Food and Drugs Act?—Yes, I have.—Can you give us any details as to that?—I cannot give you the details because not one sample of beeswax has been referred to us.—In your judgment does beeswax come under the term of "food" or "drug"?—In the Pharmacopoeia we do not find the expression beeswax at all.—It certainly is not a food; you told the Committee that you had five samples of ginger?—Yes.—Have you ever found that spent ginger has been used as an adulterant to any extent?—I have had samples that I have examined that did contain spent ginger.—Is there any proper commercial use for the product that is known as spent ginger?—No, unless a certain quantity of extractive matter is left in the ginger.—Would the sale to the public of genuine ginger with which spent ginger had been mixed, be a fraud on the purchaser?—It would depend upon the price, because the price of ginger varies greatly.—The cheaper gingers in all probability contain spent ginger?—They might.—And with regard to cocoas, are any cocoas sold in this country. This is a question which has just been put into my hands. In a prosecution which has just taken place in France with regard to cocoa it was contended that by the extraction of a portion of the fat the cocoa was falsified, and that by the augmentation of the natural alkali the cocoa was rendered injurious; on the other hand, the exact contrary was maintained; and the Court decided in favour of the cocoa manufacturers. Has there been any prosecution for any case of that sort in this country?—There has not.—In any of the cocoas sold in this country is the natural proportion of the constituents altered by the extraction of fat and the augmentation of the alkali and salts. If so, is this advantageous or otherwise?—The cocoa you refer to is one that is generally called by the name of essence of cocoa, or Van Houten's or such cocoas as that, where you have a large quantity of fat taken out of it, and then treated so that it can be worked down to a powder without the addition of sugar or any other starchy matter. In my lecture on cocoa this is referred to, and if I may be allowed to quote from it, it will perhaps cover the ground better than any answer that I can give: "Of the different descriptions of commercial cocoa now before the public, it is only just to the manufacturers to say that no kind has during the last few years so advanced in public estimation as this which has been deprived of the greater part of its natural fat and made more soluble by special processes. It is not my duty to direct attention to the production of any special manufacturer, but it is right that I should point out that cocoa so prepared is a very valuable article of diet, and is the best of the many preparations of cocoa submitted to the public. As the nitrogen is increased by the removal of the greater portion of the natural fat, it has become richer as a flesh-former than when in its natural state, and being made more soluble, the inconveniences inseparable from ordinary cocoa preparations have been greatly modified. Cocoa does not suit every constitution, but to those who can take it, and prefer it to tea or coffee, there is no doubt that the modern preparation now under consideration is of very great value. It has none of the objections of the so-called soluble cocoas, and yet is very soluble



and nutritious, being strongly recommended by the medical profession in cases of debility as a partial substitute for tea and coffee. Those manufacturers who use an alkali to increase the solubility of the cocoa are careful to use such as are wholesome. By this means the solubility is increased considerably, and such a cocoa appears to please the public. The average ash of raw cocoa is from 2.5 to 3.2 per cent.; that of fat-reduced cocoa is from 4 to 5 per cent.; and cocoa treated with alkali gives an ash as high as 8 per cent. The principal constituents of the ash to which alkali has been added, are potash and phosphoric acid, two important and valuable mineral substances required for building up the bones and tissues of the body.—Sir Mark Stewart: Is that Van Houten's cocoa to which you are referring there?—It is all that particular class of cocoa.—Mr. Whiteley: You said in one of your answers that the margarine fat was very similar to the fat that exists in milk, did you not?—I shall have to refer to my note for a moment for an explanation of that. There are some acids common to both, and there are other acids that are present in the milk which are not present in the bullocks' fat, of course.—Is it then fat of the same nature which exists in milk?—Yes.—That is quite right. When we come to the fat of milk which is concentrated in butter we find that the acids that are present in the butter are butyric, caproic, caprylic, and capric, and those are soluble in hot water. Then those that are insoluble are the myristic, palmitic, stearic, and the oleic; those are chiefly present in beef fat, and the four first are almost entirely absent from bad fat.—I should like to ask you your opinion of margarine as an article of food. Is it as nutritious as butter?—I should say that it was.—In every respect?—Yes; but, of course, it is not so palatable.—With regard to beer, you have had a great number of samples of beer sent to you, over 17,000, for analysis, and you found, I believe, over 3,000 in some measure adulterated. What was the chief adulterant used?—Water or sugar, or a mixture of sugar and water.—A former witness (Mr. Thomas, I think) informed us that in his experience beer was only adulterated by salt. That is not your experience?—We do not find that to be the case.—Is not some of the sugar that finds its way into beer used in priming the beer?—It is.—And as such it is not used as an adulterant, but to give the beer a better appearance?—It is for the purpose of making the beer quite fresh during the time it is on tap.—Generally speaking, the popular idea that beer is adulterated with all sorts of noxious chemicals is a false one?—It is a false one.—As a matter of fact, beer is almost entirely a pure article, with the exception of some amount of sugar, is it not?—I state emphatically that during the last 20 years we have not had one case of noxious adulteration of beer.—Mr. Kilbride: I think you stated last week in reply to Mr. Hearley that there is a greater difference in the quality of the milk obtained from the same cow, between what he called the fore milk, that is, the milk taken in the first part of the milking from the cow, and the last portion of the milking; I think you said that you analysed it, and found that it differed very much from the milk at the end of the milking?—The fore milk contained a very fair quantity of fat, and that taken at the end of the milking contained an excessive quantity of fat.—What difference would there be?—That depends upon how far you divide the two portions of the milking. From experiments made, if you divide the milking of a cow into three portions, you find that in the last portion you get pretty nearly three times as much fat as you do in the first portion.—If milk taken altogether from the first portion of the milking from a number of cows was submitted to you, would you say that that milk was adulterated; or would you say that it was good milk?—We should report that it was deficient in fat; the solids not fat would be all right; but we should say that it was deficient in fat.—Still it would be pure milk, would it not?—Yes, so far as drawing it from the cow is concerned, there is no doubt that it would be pure milk.—But there would be this enormous difference which does exist between the first milking from the udder and the last?—Yes.—Would you say that your milk supplied altogether from the first portion of the milking to a contractor was pure milk; would you say that the man ought to be prosecuted, or, if prosecuted, that he ought to be fined for so doing?—I think that he should be prosecuted, because I think it is a fraudulent transaction for a man to divide his milk, simply because he has got a contract at a very low price.—I think you stated, or at least it was stated by one witness here, that there is an enormous difference in the percentage of water contained in butters of different countries?—Yes, I did.—I think you said that New Zealand butter contained as low as 8 per cent. of water?—8.8 per cent.—I suppose there is no butter without some water in it?—It could not be made without water.—What is the range of variation in the percentage of water in butter?—As a rule a large quantity of the fresh butter which is imported from Normandy contains from 12 to 14 per cent. of water, as I have already stated, and the tub butter, that is to say, the salt butter imported from Denmark, will go up as high as 16 per cent., while some of the butter that is imported from Ireland will go up as high as 24 or 25 per cent. in special cases.—What standard do you fix for the maximum percentage of water that pure butter ought to contain?—You have to draw the line again between salt butter and fresh. Fresh butter would not contain as much water as salt butter; and as regards salt butter, I think when you get to about 16 per cent. that ought to be about the margin for salt butter.—Why do you fix that percentage as the standard?—I do not fix that as the standard; that is an opinion of mine. I think that if a person makes butter in the proper way, it ought not to contain more than that percentage of

water; and if it contains more than that percentage of water, I think it will be found, as a rule, that when it goes on to the market the butter will not command the same price as one which contains less water.—Then there is no standard, as a matter of fact, to be fixed by Somerset House for water in butter?—There is no standard.—Is there any standard fixed by the Society of Public Analysts as to the percentage of water in butter?—I believe there is not.—Are you aware that Somerset House has passed butter as pure which contained 19 per cent. of water?—No, I do not think we have done so.—Are you aware that Dr. Bell stated that pure butter will sometimes contain over 20 per cent. of water?—I think, I can explain where we are differing. Those samples which you find in Dr. Bell's book were samples that we had obtained in order to see the quantity of water in commercial butter at that particular time, and there is no doubt that the sample of butter there mentioned was pure butter so far as its manufacture was concerned, and that it did contain that quantity of water; but it was not a reference sample.—But it was a pure butter?—Yes.—Are you aware that Professor Carroll, of Dublin, says that pure butter may contain from 5 to 30 per cent. of water?—It may contain it.—Pure butter?—Yes, pure butter and water.—But according to you, you know, all butters are butter and water?—Exactly.—But what I want to know is whether you are aware that Professor Carroll says that pure butter may contain from 5 to 30 per cent. of water?—It has been very unskillfully made then.—Do you think now that it is reasonable to expect small dairy farmers with only three or four cows to be able to turn out as high-class butter as the butter made in large co-operative dairies?—I am quite sure that they cannot do it so well. There difficulties arise from two causes. In the first place they want to make their butter up into tubs of a certain weight, and they have such a small quantity of butter to put into the tubs, and they are so long in filling a tub that probably you would find that the butter is bad in itself, badly made, and frequently contains a large quantity of water on account of the brine that is used.—That would not be adulterated butter?—No, it would not be adulterated butter; but as a commercial article there would not be a demand for it, of course.—Are you aware that out of 2,090 samples of butter tested at the Government Laboratory at Copenhagen 15 per cent. contained from 16 to 20 per cent. of water?—I should like to see that return, because I saw one which I obtained where there were some thousand samples examined, and the highest of them contained 17 per cent. of water.—This is the return (*handing in the same to the Witness*). I think you will find that 15 per cent. of those samples contained from 16 to 20 per cent. of water?—Yes, 15 samples contained from 15.99 per cent. to 20 per cent.—Are you aware that the Danish Government spend large sums of money annually on the special cultivation and encouragement of their butter industry?—Yes, they do.—Do you know what this Government has done for Ireland in that direction?—I do not know that it has done anything.—As a matter of fact it has done nothing. Have you any practical knowledge of butter-making?—Yes, I have.—Where did you acquire it, may I ask?—At home.—How often have you seen butter made, and did you analyse the same to ascertain the percentage of moisture that it contained?—No, I did not, because as a lad I saw the butter constantly made, but I did not become a chemist until afterwards, so that I could not put the two parts together.—At what time of the year did you see it made, I suppose at all times of the year?—Yes, at all seasons of the year.—Is it easier to work butter in summer than in winter?—No; if it is very hot it is difficult to work butter, and of course if it is very cold, it is also difficult to work it. You want an equable temperature for the purpose of working butter. Is the bulk of the Irish butter which comes over here made to keep from three to six months?—It is, and even a longer time.—Are the ordinary English butter that is generally made in this country and also the butter that comes from Brittany and the Danish fresh butter, intended to be kept for that time?—Not the Danish fresh butter, nor the butter from Brittany; you get two kinds, salt and fresh. The butter made in this country is generally fresh butter, and is not made for keeping at all; but in Denmark the butter that comes chiefly from them is salt butter.—Are not these butters made with dry salt?—Yes, as a rule they are.—They do not require pickle like the Irish butter, which is made to keep from three to six months?—The Irish manufacturer does use a pickle; but it is not necessary, even if he uses a pickle, to get that large quantity of water into his butter.—If butter is to be kept sweet and good for from three to six months, is it not necessary to use from 4 to 5 per cent. of salt in the form of pickle?—At any rate, if it is necessary to use that amount of salt, it is not necessary that that large quantity of water should remain in the butter.—To prevent from 4 to 5 per cent. of salt crystallising, is it not necessary to use from 12 to 15 per cent. of water?—I daresay that it would be necessary to use that quantity of water.—That was the evidence given by Sir Charles Cameron at the Manchester butter trials. Will not that quantity of water, therefore, increase the moisture afterwards found on analysis in the butter?—No, it ought to be worked into the butter at the particular time; and therefore, as soon as the butter is put into the tub, the quantity of water that you ought to find afterwards in the tub ought to be the same as then, or very close to it. Would you allow any percentage of difference, and if you would, what percentage of difference would you allow?—You are compelled to make a difference, because, as soon as you begin to cut the butter, a quantity of water will separate, and it depends upon what part of the tub you are cutting into what percentage you



get. I think it very likely that the difference in the percentage found by the analysts at Manchester can be traced to that particular cause, because the quantity of water in the tub will vary.—Would you allow of any increased percentage of water in butter which is made to keep from three to six months more than would be contained in butter that is made to keep only a week?—There need not be more water, but there must be more salt, because water is not a preservative; it is the salt that is the preservative.—Would you allow of any difference in the percentage of water at all?—Yes. I say that if you get a tub of butter containing 15 or 16 per cent. of water, that is as close as a man can well work it.—I want to get the exact percentage of difference that you would allow between butter made to keep from three to six months, and butter made to keep for a week?—In butter that is made to keep for a week you need not have above 10 per cent.; but you generally get it 12 to 14 per cent.—I again ask you what percentage of difference would you allow, or would you allow any?—I think the point is this, that you are thinking or speaking as if the water is a preservative. I say that the salt is the preservative, not the water.—If the salt be preservative and not the water, then according to you there ought to be no difference in the percentage of water between salt butter and fresh?—There would be a difference, because the salt itself being mixed with the butter will take up water.—You have acknowledged that to keep from 4 to 5 per cent. of salt from crystallising it would be necessary to use from 12 to 15 per cent. of water?—Even if you use from 12 to 15 per cent. of water, the final quantity of water need not be above 16 or 17 per cent.—Then, according to you, there ought to be a difference of 3 or 4 per cent. of water in a tub of fresh butter and a tub of salt butter?—I think that is quite sufficient to cover the whole difference in the manufacture.—Would you go higher than 4 per cent.?—That is high enough.—You said that 16 per cent. of water was the maximum amount of water that English butter contains?—No, I do not say that.—You say that 16 per cent. of water is as high a percentage as it ought to contain?—Yes.—Have you ascertained that by analysis?—Yes.—How many samples have you analysed?—I cannot tell you how many samples, but it is a matter of constant examination.—From your experience have you found that butter made in hot weather contains more water than butter made in cold weather?—Yes, as a rule it does.—Why is that?—Simply because you cannot work the butter in hot weather as well as you can in the colder weather; it is more in the form of a thick cream than in the form of a solid butter.—Therefore it is your opinion that the temperature at the time when the butter is made has a great deal to do with the percentage of water that will be found in the butter subsequently?—That is my opinion.—In fact it is your opinion that the water cannot be pressed out of it in very warm weather?—I expect that the large manufacturers have got some mechanical means of doing it, but I am not acquainted with it.—What percentage of water is there in milk?—It varies; but if you take the total solids as 11·5 per cent., that will give you about 88·5 per cent. for the water? There would be from 87 to 88 per cent. of water?—Yes.—And perhaps more?—Yes.—What variation of water is there in milk?—From 4 to 5 per cent.—What is the percentage of water in cream?—That would depend upon whether it is a cream that is obtained by a separator or not. Cream that is obtained by a separator may contain 50 per cent. of water.—Would you be surprised to learn that there is such a variation as from 33 to 67 per cent.?—I should not be at all surprised to learn it, simply because when we talk about cream we have either thin cream or thick. We have some cream not thicker than milk, and we have some cream so thick that we have to cut it with a knife.—You have stated, I think, that temperature has a good deal to do with the making of butter?—Yes.—Do you know at what temperature butter should be made, and at what temperature milk should be kept for the purpose of making butter?—It is not the milk; it is the cream in the churn.—What ought the temperature to be?—If you could get it down to from 65 to 70 degrees it would be very convenient for working.—Is there a wide variation in the quality of butter, and in its market value?—There is; and that market value has no relation to its chemical composition.—It is the fact that the percentage of water varies in all butters to the extent of from 5 to 16 per cent.?—Yes, from 5 to 16 per cent.—I suppose you will acknowledge that in some English fresh butter there is as much as 20 per cent. of water?—I have found it.—Would any man buying butter containing say, 15 per cent. of water be prejudiced in his purchase over a man buying butter containing only 5 per cent. of water?—Yes, and the same quality of butter.—How are you to protect the purchaser from being prejudiced within these limits?—I do not see how we can.—If you say that a pure butter ought to contain only 16 per cent. of water, and there is butter made with only 5 per

cent. of water, the man who buys the butter with 16 per cent. of water in it is surely very much prejudiced as against the man buying butter with only 5 per cent. of water?—Yes, as compared with the man who buys the other butter at the same price.—What difference would you allow between the best butter made in Denmark on scientific principles with the best appliances, and the cheap commercial butter that comes over from Ireland?—Do you mean the difference in the commercial value or the difference in the percentage of water?—I mean the difference in the percentage of water.—There should be very little difference in the percentage of water.—Then you would allow some difference between the Danish butter made with these appliances that you referred to just now for pressing the water out of it, although the Irish butter made by hand would not be fraudulently adulterated even when it contained 20 per cent. of water. What kind of percentage of water would you allow in the two processes?—I think that something ought to be done in a case of that kind as in the case of poor milk. If a sample containing that quantity of water were to be examined, and it could be traced up to the manufacturer of it, if his appliances were so bad that he could not use a less quantity of water, he ought not to be punished.—What quantity of water and fat does cheese contain?—It varies greatly.—Take American red cheese?—In an analysis of commercial cheese we find that the American red cheese contains 28·63 per cent. of water.—And what percentage of fat?—38·24 per cent.—And Cheshire cheese?—Cheshire cheese contains 37·11 per cent. of water, and 30·68 per cent. of fat. And Dutch cheese?—Dutch cheese contains 41·30 per cent. of water, and 22·78 per cent. of fat.—Then American red cheese contains 13 per cent. less water than Cheshire cheese?—Yes; but the American cheese and the Cheshire cheese are not made in the same way. The American cheese is made by pressing, and the Cheshire cheese is made partly by beating and partly by pressure; so that you find that one is what we call a tough cheese, and the other is a curdy brittle cheese.—As a matter of fact, Cheshire cheese contains more water and less fat than American cheese?—It does.—Which cheese ranks higher in the market?—There is very great difficulty in getting Cheshire cheese at the present time, but Cheshire cheese fetches a high price in the market comparatively.—Then, as a matter of fact, Cheshire cheese ranks higher in the market, notwithstanding the fact that it contains more water and less fat?—That is on account of the peculiar quality and of the peculiar mode of preparation.—What fixes the value of Cheshire cheese?—The public taste.—Sir Mark Stewart: Is it not the fact that Cheshire cheese comprises that whole product of the cow, the cream, the milk, and everything else?—Yes.—Mr. Kilbride: Then, as a matter of fact, although the public give more money for Cheshire cheese than for American cheese they are prejudiced in their purchase, because it contains more water?—They do not take that standard; they take another standard altogether. They buy it as Cheshire cheese; they do not buy it on account of the water that it contains.—Then why do you fix this arbitrary standard of 16 per cent. of water in the pickled butter that comes from Ireland?—I am very sorry that it should apply in that way, but there is no doubt about it that when you come to ordinary butter containing such a large percentage of water it is to the prejudice of the purchaser to sell such a butter as ordinary butter.—You state as a fact that the reason why there is less water in American cheese is that it is made by a different process from that of Cheshire cheese?—Yes.—As a matter of fact, the Irish butter is made by a different process from that by which Danish butter is made, and it would be only natural to expect that it would contain more water than Danish butter does?—But the misfortune is that the public expect that the Irish butter should contain the same quantity as the Danish butter. In the case of Cheshire cheese and American cheese, they buy the Cheshire cheese because it is Cheshire cheese, and they buy the American cheese because it is American cheese; they do not compare the one with the other.—What evidence have you that the public desire to have only 16 per cent. of water in Irish butter?—The evidence that I have is that you want always to get as much value for your money as you possibly can.—According to that the public desire only to have 16 per cent. of water in Irish butter because they want value for their money. Then how comes it that they are willing to give a very much higher price for Cheshire cheese than they will give for American cheese, although they will not be getting value for their money?—That is a matter of taste; we cannot do it by chemistry. That is a matter of opinion.—Why do you allow the public taste to fix the quantity of water in Irish butter; why do you establish that standard?—I am entirely opposed to establishing a standard. I believe that ordinary commerce will settle it for itself.—That is the point.

(To be continued.)

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